

# ***EXHIBIT 9***

UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF NORTH CAROLINA  
CHARLOTTE DIVISION

IN RE: GARDASIL ) MDL No. 3036  
PRODUCTS LIABILITY ) 3:22-md-03036-KDB  
LITIGATION )  
)  
)  
)  
THIS DOCUMENT RELATES TO )  
ALL ACTIONS )  
\_\_\_\_\_ )

Video Deposition of LUCIJA  
TOMLJENOVIC, PH.D., taken at Wisner Baum,  
11111 Santa Monica Boulevard, Suite 1750,  
Los Angeles, California, commencing at  
9:04 a.m., on Friday, October 18, 2024,  
reported stenographically by Lisa Moskowitz,  
California CSR 10816, Certified Realtime  
Reporter, Nevada CCR 991, Washington CCR  
21001437, Illinois CSR 084.004982, RPR, CLR,  
NCRA Realtime Systems Administrator.

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<p style="text-align: right;">Page 2</p> <p>1 APPEARANCES:</p> <p>2</p> <p>3 On behalf of Plaintiffs:</p> <p>4 WISNER BAUM LLP</p> <p>5 BY: MICHAEL L. BAUM</p> <p>6 mbaum@wisnerbaum.com</p> <p>7 BY: BIJAN ESFANDIARI (via Zoom)</p> <p>8 besfandiari@wisnerbaum.com</p> <p>9 11111 Santa Monica Boulevard</p> <p>10 Suite 1750</p> <p>11 Santa Monica, California 90025</p> <p>12 (310) 207-3233</p> <p>13</p> <p>14 On behalf of Merck Defendants:</p> <p>15 GOLDMAN ISMAIL TOMASELLI BRENNAN &amp;</p> <p>16 BAUM, LLP</p> <p>17 BY: ALLYSON M. JULIEN</p> <p>18 ajulien@goldmanismail.com</p> <p>19 BY: EMMA C. ROSS, M.D.</p> <p>20 eross@goldmanismail.com</p> <p>21 200 South Wacker Drive</p> <p>22 22nd Floor</p> <p>23 Chicago, Illinois 60606</p> <p>24 (312) 681-6000</p> <p>25</p> <p>16 and</p> <p>17</p> <p>18 HUGHES HUBBARD &amp; REED</p> <p>19 BY: CHARLES COHEN</p> <p>20 charles.cohen@hugheshubbard.com</p> <p>21 One Battery Park Plaza</p> <p>22 New York, New York 10004</p> <p>23 (212) 837-6000</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 4</p> <p>1 I N D E X</p> <p>2 EXAMINATION OF PAGE</p> <p>3 LUCIJA TOMLJENOVIC</p> <p>4 By Attorney Julien 8</p> <p>5 By Attorney Baum 323</p> <p>6</p> <p>7</p> <p>8 DEPOSITION EXHIBITS</p> <p>9 (STENOGRAPHER'S NOTE: All quotations</p> <p>10 from exhibits are reflected in the manner in</p> <p>11 which they were read into the record and do</p> <p>12 not necessarily denote an exact quote from</p> <p>13 the document.)</p> <p>14 NUMBER DESCRIPTION PAGE</p> <p>15 1 Expert Report in the Matter of 11</p> <p>16 the Gardasil Litigation</p> <p>17</p> <p>18 2 Curriculum Vitae 11</p> <p>19</p> <p>20 3 Bio of Alan Baxter 13</p> <p>21</p> <p>22 4 Bio of Joab Chapman 13</p> <p>23</p> <p>24 5 Documents produced by the 16</p> <p>25 witness at deposition</p> <p>18 6 Materials Considered List 16</p> <p>19 7 Expert Report in the Matter of 16</p> <p>20 the Gardasil Litigation, dated</p> <p>21 9/8/24, tabbed version</p> <p>22 8 Invoices 43</p> <p>23 9 Video played during deposition 57</p> <p>24</p> <p>25</p>
<p style="text-align: right;">Page 3</p> <p>1 APPEARANCES (Continued):</p> <p>2</p> <p>3 For Defendants Robin Scanlon, M.D.,</p> <p>4 Southern California Permanente Medical</p> <p>5 Group, and Kaiser Foundation Hospitals:</p> <p>6 KELLY TROTTER &amp; FRANZEN</p> <p>7 BY: SHELBY M. JONES (via Zoom)</p> <p>8 smjones@kellytrotter.com</p> <p>9 111 West Ocean Boulevard</p> <p>10 14th Floor</p> <p>11 Long Beach, California 90801</p> <p>12 (562) 432-5855</p> <p>13</p> <p>14 ALSO PRESENT VIA ZOOM:</p> <p>15 CINDY HALL</p> <p>16 SAM SCHOENBURG</p> <p>17</p> <p>18 VIDEOGRAPHER:</p> <p>19</p> <p>20 DAVID KIM,</p> <p>21 GOLKOW TECHNOLOGIES</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 5</p> <p>1 DEPOSITION EXHIBITS (Continued)</p> <p>2 NUMBER DESCRIPTION PAGE</p> <p>3 10 Transcript of video marked as 59</p> <p>4 Exhibit 9. To be provided by</p> <p>5 defendants after the</p> <p>6 deposition.</p> <p>7</p> <p>8 11 Editorial: The 128</p> <p>9 Biochemistry/Toxicity of</p> <p>10 Aluminum</p> <p>11</p> <p>12 12 Article with lead author 131</p> <p>13 Lucija Tomljenovic</p> <p>14 13 Article by Lucija Tomljenovic 137</p> <p>15 14 Article with lead author 158</p> <p>16 Christopher Shaw</p> <p>17</p> <p>18 15 FDA statement entitled FDA 163</p> <p>19 Information on Gardasil</p> <p>20 Presence of DNA Fragments</p> <p>21 Expected, No Safety Risk</p> <p>22 CDC Wonder website printout 207</p> <p>23 16 Article with lead author 197</p> <p>24 Wakaba Fukushima</p> <p>25</p> <p>18 Article with lead author Lars 204</p> <p>19 Jorgensen</p> <p>20 Article with lead author Tom 212</p> <p>21 Shimabukuro</p> <p>22</p> <p>23 20 Email Chain from Louise 239</p> <p>24 Brinth, dated 1/16/23</p> <p>25 21 Article with lead author A. 247</p> <p>Patricia Wodi</p> <p>22</p> <p>23 Article with lead author 255</p> <p>24 Collins Tatang</p> <p>25 23 VAERS website printout 264</p> <p>24</p> <p>25</p>

<p style="text-align: right;">Page 6</p> <p>1 DEPOSITION EXHIBITS (Continued)</p> <p>2 NUMBER DESCRIPTION PAGE</p> <p>3 24 Article by Lucija Tomljenovic 269 and Christopher Shaw</p> <p>4</p> <p>5 25 Article with lead author Jan 270 Eberth</p> <p>6 26 VAERS Report Number 0285806-1 286</p> <p>7 27 WHO 2012 Weekly 301 Epidemiological Record, dated</p> <p>8 7/27/12</p> <p>9 28 Global Advisory Committee on 306 Vaccine Safety Statement on</p> <p>10 the Continued Safety of HPV Vaccination</p> <p>11</p> <p>12 29 Three articles with lead 314 authors Tom Jefferson, Jason Glanz, and Sara Krauss</p> <p>13</p> <p>14 30 Responsum to Assessment Report 316 on HPV-vaccines released by EMA November 26th, 2015</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19 QUESTIONS NOT ANSWERED</p> <p>20 PAGE LINE</p> <p>21 232 2</p> <p>22 241 4</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 8</p> <p>1 behalf of Merck.</p> <p>2 ATTORNEY JONES: Shelby Jones on</p> <p>3 behalf of defendants Kaiser Foundation</p> <p>4 Hospital, Southern California</p> <p>5 Permanente Medical Group, and Dr.</p> <p>6 Robin Scanlon.</p> <p>7 THE VIDEOGRAPHER: The court</p> <p>8 reporter is Lisa Moskowitz, and she</p> <p>9 will now swear in the witness.</p> <p>10 THE CERTIFIED STENOGRAPHER: I am</p> <p>11 a California certified stenographic</p> <p>12 reporter, and my CSR license number is</p> <p>13 10816.</p> <p>14</p> <p>15 LUCIJA TOMLJENOVIC,</p> <p>16 called as a witness,</p> <p>17 was examined and testified as follows:</p> <p>18</p> <p>19 EXAMINATION</p> <p>20 BY ATTORNEY JULIEN:</p> <p>21 Q. Good morning. Can you please state</p> <p>22 and spell your full name for the record.</p> <p>23 A. It's Lucija Tomljenovic. That's</p> <p>24 L-u-c-i-j-a T-o-m-l-j-e-n-o-v-i-c.</p> <p>25 Q. Dr. Tomljenovic, as you heard, my</p>
<p style="text-align: right;">Page 7</p> <p>1 FRIDAY, OCTOBER 18, 2024</p> <p>2 LOS ANGELES, CALIFORNIA</p> <p>3 9:04 A.M.</p> <p>4</p> <p>5 THE VIDEOGRAPHER: We are now on</p> <p>6 the record. My name is David Kim.</p> <p>7 I'm a videographer for Golkow</p> <p>8 Litigation Services. Today's date is</p> <p>9 October 18, 2024, and the time is</p> <p>10 9:04 a.m. Pacific time. This video</p> <p>11 deposition is being held in Los</p> <p>12 Angeles, California, in the matter of</p> <p>13 Gardasil products liability litigation</p> <p>14 MDL number 3036. The deponent is</p> <p>15 Lucija Tomljenovic.</p> <p>16 Counsel, please identify</p> <p>17 yourselves for the video record.</p> <p>18 ATTORNEY BAUM: Michael Baum for</p> <p>19 the plaintiffs.</p> <p>20 ATTORNEY JULIEN: Allyson Julien</p> <p>21 on behalf of the Merck defendants.</p> <p>22 ATTORNEY COHEN: Charles Cohen</p> <p>23 also on behalf of the Merck</p> <p>24 defendants.</p> <p>25 ATTORNEY ROSS: Emma Ross also on</p>	<p style="text-align: right;">Page 9</p> <p>1 name is Allyson Julien, and I represent</p> <p>2 Merck in this litigation, and I'll be taking</p> <p>3 your deposition today. I just want to start</p> <p>4 with a few ground rules.</p> <p>5 At some point today, I'm sure I</p> <p>6 will ask a question that's unclear or I may</p> <p>7 use a term inappropriately or mispronounce</p> <p>8 something. If you ask me to stop or repeat</p> <p>9 or rephrase the question, I'm happy to do</p> <p>10 that. Okay?</p> <p>11 A. Yes. No nodding.</p> <p>12 Q. Another thing is we have to give</p> <p>13 verbal responses. I know we're used to</p> <p>14 nodding or shaking our head, but I'll ask</p> <p>15 that you give a verbal response to my</p> <p>16 questions. If you answer a question, I will</p> <p>17 assume that you understood it.</p> <p>18 Is that fair?</p> <p>19 A. Yes.</p> <p>20 Q. Is there any reason you cannot give</p> <p>21 complete and accurate testimony today?</p> <p>22 A. I don't think so.</p> <p>23 Q. Do you understand that this is my</p> <p>24 opportunity to ask you questions about you,</p> <p>25 your opinions, and the bases for those</p>

<p style="text-align: right;">Page 10</p> <p>1 opinions?</p> <p>2 A. Yeah, I do.</p> <p>3 Q. Now, I see you brought some</p> <p>4 materials with you today.</p> <p>5 Can you please identify the</p> <p>6 hard-copy materials that you brought with</p> <p>7 you?</p> <p>8 A. Yeah, so it's my entire expert</p> <p>9 witness report in five parts and my CV and</p> <p>10 the appendices that I believe was submitted</p> <p>11 to you by Wisner Baum.</p> <p>12 There's only two things that wasn't</p> <p>13 submitted just in case, because I anticipate</p> <p>14 that I'll be asked questions about my</p> <p>15 education, and there are certain things that</p> <p>16 perhaps I didn't emphasize well enough.</p> <p>17 It's just to do with one of my</p> <p>18 co-supervisors, Ph.D. co-supervisor, who is</p> <p>19 one of the experts in immune diseases. It's</p> <p>20 a short bio. That's all I took just in</p> <p>21 case.</p> <p>22 Q. Okay. Can I mark your expert</p> <p>23 report as Exhibit 1, if you don't mind</p> <p>24 placing -- or I can put the sticker on</p> <p>25 there.</p>	<p style="text-align: right;">Page 12</p> <p>1 But we republished it later in</p> <p>2 another journal because, again, we</p> <p>3 believe that the retraction was</p> <p>4 unjustified. The proper reason for</p> <p>5 retraction is normally fraud or</p> <p>6 plagiarism, and that was not the case.</p> <p>7 And the reason why I, again, took</p> <p>8 this bio is because, other than Yehuda</p> <p>9 Shoenfeld, this is another senior</p> <p>10 author on the paper who was -- he's</p> <p>11 president-elect of the Israel</p> <p>12 Neurological Association with over 200</p> <p>13 publications. So he would not put his</p> <p>14 name on a paper that was so</p> <p>15 methodologically flawed that we would</p> <p>16 risk retraction. We are of the</p> <p>17 opinion the retraction was based for</p> <p>18 other motives because the</p> <p>19 editor-in-chief was Gregory Poland,</p> <p>20 and he does have some conflicts of</p> <p>21 interest with Merck.</p> <p>22 But again, long story short,</p> <p>23 that's why I brought this, his bio,</p> <p>24 because I kind of expected you might</p> <p>25 ask me a question or two about this,</p>
<p style="text-align: right;">Page 11</p> <p>1 (Exhibit Number 1 was marked for</p> <p>2 identification.)</p> <p>3 THE WITNESS: I don't like to</p> <p>4 commit people's credentials to my</p> <p>5 memory.</p> <p>6 ATTORNEY JULIEN: And I will mark</p> <p>7 your CV as Exhibit 2.</p> <p>8 (Exhibit Number 2 was marked for</p> <p>9 identification.)</p> <p>10 THE WITNESS: Sorry. There is</p> <p>11 another document. Again, it's a short</p> <p>12 bio of Joab Chapman, who is one of the</p> <p>13 co-authors on a paper that I was</p> <p>14 involved in the study. I was the</p> <p>15 co-author on. The paper was initially</p> <p>16 published in the Journal of Vaccine</p> <p>17 and went through regular peer-review,</p> <p>18 and then we were notified that it was</p> <p>19 under retraction.</p> <p>20 The story was that it was sent by</p> <p>21 another -- for another round of review</p> <p>22 by the editor-in-chief, Gregory</p> <p>23 Poland, and there were some concerns</p> <p>24 about methodology on the basis of</p> <p>25 which the paper was then retracted.</p>	<p style="text-align: right;">Page 13</p> <p>1 the paper, so. . .</p> <p>2 BY ATTORNEY JULIEN:</p> <p>3 Q. Okay. We'll get to all those, but</p> <p>4 I want to mark the two documents you brought</p> <p>5 with you.</p> <p>6 A. Yeah.</p> <p>7 Q. I'm marking the -- it appears to be</p> <p>8 a bio of Alan Baxter as Exhibit 3 to your</p> <p>9 deposition.</p> <p>10 (Exhibit Number 3 was marked for</p> <p>11 identification.)</p> <p>12 BY ATTORNEY JULIEN:</p> <p>13 Q. I'm marking a bio of a Dr. Joab,</p> <p>14 J-o-a-b, Chapman as Exhibit 4 to your</p> <p>15 deposition.</p> <p>16 (Exhibit Number 4 was marked for</p> <p>17 identification.)</p> <p>18 BY ATTORNEY JULIEN:</p> <p>19 Q. Okay. And then I understand that</p> <p>20 you -- I see you have your laptop in front</p> <p>21 of you today --</p> <p>22 A. Right.</p> <p>23 Q. -- at the deposition.</p> <p>24 Why did you bring your laptop to</p> <p>25 the deposition?</p>

4 (Pages 10 - 13)

<p style="text-align: right;">Page 14</p> <p>1 A. So I made a selection of articles 2 that I expect, again, you might ask some 3 questions about. Like mostly it's studies 4 that are used by Merck and the regulators as 5 support of Gardasil safety in terms of 6 autoimmune diseases and syndromes like POTS. 7 I have certain key things in those 8 articles highlighted. If you hand me the 9 article and say, for example, this study 10 shows there's no problem, and then there are 11 things in the articles that I highlighted 12 where, in my opinion, there is a problem or 13 there is a limitation that does not allow 14 for such firm conclusions. 15 It's simply easy to identify it 16 rather than me having to read the whole 17 paper here to find those things because 18 there's quite a number of these articles. 19 Q. Can you read the author -- can you 20 give a short -- I want to know what 21 specifically you have listed there. So can 22 you read the titles or the author's name and 23 year so we know what specifically you 24 thought was important to mark today? 25 A. For example, it's Arnheim Dahlstrom</p>	<p style="text-align: right;">Page 16</p> <p>1 look at them. 2 (Exhibit Number 5 was marked for 3 identification.) 4 BY ATTORNEY JULIEN: 5 Q. And so other than the hard-copy 6 materials and the studies that you mentioned 7 that you have on your computer, did you 8 bring anything else with you today? 9 A. No. 10 ATTORNEY BAUM: She also has her 11 materials considered and Rule 26 12 expert. 13 ATTORNEY JULIEN: I will mark your 14 materials considered list as Exhibit 6 15 to your deposition. 16 (Exhibit Number 6 was marked for 17 identification.) 18 BY ATTORNEY JULIEN: 19 Q. Okay. Doctor, just for ease of 20 reference today, I know you already have a 21 hard copy there with you, but I'm going to 22 mark your expert report, a tabbed version of 23 it, as Exhibit 7 to your deposition. 24 (Exhibit Number 7 was marked for 25 identification.)</p>
<p style="text-align: right;">Page 15</p> <p>1 2013 study. And then there is the Gronland 2 2016 study. And then there is a couple 3 number of studies by Anders Hviid. The 2019 4 cluster analysis of serious adverse events 5 reported in Denmark and then there is Hviid 6 2018 HPV vaccine and the risk of autoimmune 7 and neurological diseases. 8 And then there's also Hviid 2020, 9 which is Association of qHPV and selected 10 syndromes with autonomic dysfunction. 11 Q. Are there any others that you have 12 listed? 13 A. There are. There's a lot of -- I 14 think Emma's got them all. 15 ATTORNEY ROSS: If I might make a 16 suggestion. If you want to mark as an 17 exhibit all of those articles, I can 18 send them to Lisa, and we'll have 19 them. 20 ATTORNEY JULIEN: Okay. I will 21 mark the digital documents you brought 22 with you today collectively as 23 Exhibit 5 to your deposition. We may 24 have some follow-up questions on those 25 a bit later once I've had a chance to</p>	<p style="text-align: right;">Page 17</p> <p>1 BY ATTORNEY JULIEN: 2 Q. And the reason why I know you have, 3 I believe, seven different sections in the 4 report where the pagination restarts; so 5 that would be challenging for us to 6 negotiate through that today. 7 A. Yes. 8 Q. And do you see that I've marked 9 part 1, Q2, Q3 just to help us move through 10 the deposition today more easily? 11 A. That's nice. 12 Q. Now, does your expert report 13 accurately reflect your views with respect 14 to POTS -- and that's Postural Orthostatic 15 Tachycardia Syndrome; POI, Primary Ovarian 16 Insufficiency; autoimmunity; dysautonomia, 17 in Gardasil as of September, 2024? 18 A. Yeah. 19 Q. Are there any errors that you have 20 identified that need to be corrected in your 21 report as you sit here today? 22 A. I did identify some, but they're 23 kind of, like, typos and some grammar, 24 things like that. But nothing that would -- 25 nothing that bears any influence on the</p>

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1 conclusions or the changes in meaning.  
 2 Q. Are all of the opinions that you  
 3 intend to offer in this litigation included  
 4 in your expert report?  
 5 A. Yeah.  
 6 Q. Is it correct that you have no  
 7 opinions about Ms. Jennifer Robi  
 8 specifically in your expert report in this  
 9 litigation?  
 10 A. In the expert witness report, no, I  
 11 don't.  
 12 Q. Okay. Are you drawing a  
 13 distinction between that and something else?  
 14 A. Well, again, I know that I believe  
 15 I'm going to be one of the expert witnesses  
 16 in the Jennifer Robi case in January.  
 17 Q. Okay. You know, if you are called  
 18 to testify, will you testify about Ms. Robi  
 19 specifically?  
 20 A. I think from what -- because we  
 21 haven't had detailed conversations about  
 22 that, but I think I'll be only testifying  
 23 generally, again, about POTS and menstrual  
 24 irregularities because I believe that's one  
 25 of her symptoms too. I would not be going

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1 through her medical records or anything.  
 2 Q. Have you ever served as an expert  
 3 witness in litigation before?  
 4 A. Well, I was asked to provide an  
 5 expert witness report in 2014, and that was  
 6 an Israeli law firm. That was when I was in  
 7 Israel. I don't know if anything came out  
 8 of it because I was never asked to be  
 9 deposed or anything. So I just basically  
 10 handed in an expert witness report, and that  
 11 was pretty much it. So, yeah, I don't think  
 12 it ever went further from there.  
 13 Q. Did that expert report involve  
 14 Gardasil or HPV?  
 15 A. Yeah, yeah, it did involve  
 16 Gardasil. Or HPV. HPV vaccines. But I  
 17 believe it was Gardasil.  
 18 Q. And have you -- strike that.  
 19 Is today your first time  
 20 testifying?  
 21 A. Right, yeah.  
 22 Q. I wanted to direct your attention  
 23 to your materials considered list, which I  
 24 marked as Exhibit 6.  
 25 A. Right. Okay.

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1 Q. Does your materials considered list  
 2 include everything that you reviewed --  
 3 A. Yes.  
 4 Q. -- to prepare for -- to prepare for  
 5 your -- strike that.  
 6 Does it include all the materials  
 7 that you reviewed in offering your opinions  
 8 in this litigation?  
 9 ATTORNEY BAUM: Objection. Vague.  
 10 BY ATTORNEY JULIEN:  
 11 Q. You can answer.  
 12 A. Does it contain everything that I  
 13 relied on to provide the opinion in my  
 14 expert witness report; right? That's the  
 15 question?  
 16 Q. Yes.  
 17 Does it -- well, let me ask it  
 18 first: Does it include everything that you  
 19 reviewed in offering your opinions in this  
 20 litigation?  
 21 A. Yes.  
 22 Q. Okay. And does it also include  
 23 everything that you relied on in offering  
 24 your opinions in this litigation?  
 25 A. Yes.

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1 ATTORNEY JULIEN: And just to go  
 2 back to the report that you mentioned  
 3 that you prepared in Israel, we'll be  
 4 making a request for that, Mr. Baum.  
 5 ATTORNEY BAUM: I think the  
 6 request that you gave us didn't go  
 7 back that far. It was ten years ago.  
 8 ATTORNEY JULIEN: Okay. We'll  
 9 take a look.  
 10 ATTORNEY BAUM: If we can dig it  
 11 up, I'll consider getting it for you,  
 12 but I think that the request didn't go  
 13 back that far.  
 14 ATTORNEY JULIEN: We'll take a  
 15 look. Thank you.  
 16 ATTORNEY BAUM: I think the  
 17 request only went back four years.  
 18 ATTORNEY ROSS: I think we  
 19 requested anything at any time related  
 20 to an opinion with Gardasil --  
 21 (Clarification by the Certified  
 22 Stenographer.)  
 23 ATTORNEY JULIEN: We'll talk about  
 24 it later.  
 25 ATTORNEY BAUM: We'll sort it out.



<p style="text-align: right;">Page 22</p> <p>1 BY ATTORNEY JULIEN:  2 Q. You worked with Dr. Louise Brinth  3 on portions of your report; is that correct?  4 A. I had discussions, yes, with her.  5 Q. Dr. Brinth is a medical doctor?  6 A. Yes.  7 Q. Do you consider her an expert in  8 POTS?  9 A. I do, because she's evaluated  10 hundreds and hundreds of patients with  11 dysautonomia in her career and chronic  12 fatigue syndrome. So yes, I do consider her  13 an expert.  14 Q. You do not have that clinical  15 expertise in --  16 A. No, I don't. I don't. I just --  17 well, I reviewed a lot of papers for many  18 years of being researching POTS, but I don't  19 pretend to be a medical doctor because I'm  20 not, which is why I wanted to pass by her.  21 And that's in my report to see if she had  22 any objections and corrections, and she  23 didn't have any.  24 Q. Did you rely on Dr. Brinth in  25 reaching your opinions in this case?</p>	<p style="text-align: right;">Page 24</p> <p>1 Dr. Brinth is a plaintiff's expert in this  2 case?  3 ATTORNEY BAUM: I'm just going to  4 object. I think you already know  5 which experts we've identified for  6 this case, and she's not one of the  7 experts we identified for this case.  8 She did not give a report. She's a  9 consultant. To the degree that you  10 start moving into consulting issues,  11 I'm going to have to, like, curb those  12 questions.  13 ATTORNEY JULIEN: She just said  14 that she relied on her in reaching her  15 opinion. So I'll ask my question  16 again.  17 BY ATTORNEY JULIEN:  18 Q. Is it your understanding that  19 Dr. Brinth is a retained expert or  20 consultant in this case on behalf of the  21 plaintiffs?  22 ATTORNEY BAUM: Objection. Calls  23 for her to understand that  24 information. It would have been the  25 lawyers to do that. That's not her</p>
<p style="text-align: right;">Page 23</p> <p>1 A. Well, I did rely because the  2 algorithm that we developed, that was our  3 joint work, it's not my sole work obviously;  4 so I -- but at that time, I reviewed a lot  5 of adverse events reports from VAERS.  6 You're probably familiar with that. You  7 know that VAERS also codes -- has a list of  8 preferred terms and MedDRA codes to describe  9 the adverse events.  10 So I reviewed hundreds of POTS  11 reports to see what are the most common  12 terms used to code for symptoms of POTS.  13 And then Louise with her clinical  14 experience -- also she suggest -- she  15 obviously identified other terms that would  16 be relevant.  17 So we made a joint list of terms  18 that we thought were relevant, and we tried  19 to reach a consensus of which should be  20 final included in our algorithm. So I did  21 rely on her.  22 Q. I'll be asking you some questions  23 about your disproportionality analysis in a  24 bit.  25 Is it your understanding that</p>	<p style="text-align: right;">Page 25</p> <p>1 job.  2 ATTORNEY JULIEN: Okay. That's  3 beyond the form. But I'll ask the  4 question again.  5 BY ATTORNEY JULIEN:  6 Q. Is it your understanding that  7 Dr. Brinth is a retained expert or  8 consultant in this litigation on behalf of  9 the plaintiffs?  10 A. So I can answer; right?  11 Q. This is not privileged.  12 Is that your understanding?  13 A. Yeah, yeah.  14 Q. Okay.  15 A. Just let me answer fully. She  16 is -- as I understand, she's a consultant,  17 but not the expert in the sense like I am.  18 She didn't provide any expert witness  19 report.  20 Q. Do you understand that she's being  21 paid by plaintiff lawyers in this case to  22 work with you?  23 A. I don't know that.  24 Q. If you go to page 6 of your report  25 under Q1, the first question, you say that</p>



<p style="text-align: right;">Page 26</p> <p>1 Dr. Brinth reviewed and endorsed question 1  2 in your report; is that correct?  3 A. Yeah, yeah.  4 Q. So did you send her a draft of your  5 report before it was final?  6 A. Yeah, I sent -- send her a draft  7 before it was final. And she only --  8 ATTORNEY BAUM: Okay. Hold it.  9 I'm just going to object to the degree  10 you are now asking questions that are  11 not related to -- asking about  12 communications between people who  13 worked with us on the case and our  14 experts. I think the protocol says  15 you don't get to go there.  16 ATTORNEY JULIEN: Well,  17 Dr. Tomljenovic said that she relied  18 on Dr. Brinth, and she disclosed in  19 her report that Dr. Brinth reviewed  20 and endorsed question 1 of her report.  21 So I'm asking about that.  22 ATTORNEY BAUM: And that's the  23 limit to which I think you can go.  24 You can ask, you know, did she rely?  25 Yes. But to get all the</p>	<p style="text-align: right;">Page 28</p> <p>1 Dr. Brinth. So --  2 ATTORNEY JULIEN: I'm entitled to  3 ask when she first spoke with  4 Dr. Brinth. I didn't ask for the  5 substance of the communications.  6 You're saying I can't know when she  7 first spoke with Dr. Brinth?  8 THE WITNESS: I spoke with her  9 even before I got involved in this  10 litigation because we published on  11 POTS, and she published on POTS. So  12 we communicated even before she was  13 aware of my work and I was aware of  14 hers.  15 Obviously, when I got involved in  16 this case, we had further  17 communication because, again, I know  18 she's a clinician, and I like to  19 consult brains better than my own.  20 BY ATTORNEY JULIEN:  21 Q. Are you relying on any other expert  22 in this case for any opinion that you're  23 offering?  24 A. Not really. Not any of the experts  25 that are -- that are being deposed. I'm</p>
<p style="text-align: right;">Page 27</p> <p>1 communications, I don't think you get  2 all those.  3 ATTORNEY JULIEN: Well, we can  4 have that discussion later.  5 BY ATTORNEY JULIEN:  6 Q. Did you exchange drafts of your  7 report with Dr. Brinth by email?  8 A. Yeah, yeah, I did.  9 Q. And to the extent that she sent any  10 edits to you, did she send those by email?  11 A. Yes.  12 Q. When did you first speak with  13 Dr. Brinth regarding the opinions that you  14 offer in this case?  15 A. Regarding the?  16 Q. Regarding the opinions that you  17 offer in this case?  18 A. Oh, opinions. Like specifically  19 after I was called to be an expert witness  20 or in general?  21 ATTORNEY BAUM: Again, you get to  22 get what did she rely upon and what  23 material she relied upon with respect  24 to Dr. Brinth. You don't get to have  25 all of her communications with</p>	<p style="text-align: right;">Page 29</p> <p>1 relying only on -- I'm relying on the  2 research literature. Obviously that's in my  3 materials considered list.  4 Q. You have a Ph.D. in biochemistry;  5 correct?  6 A. Yeah.  7 Q. Would you describe yourself as a  8 biochemist by trade?  9 A. I would. That's my Ph.D., so . . .  10 Q. Are you a medical doctor?  11 A. I am not a medical doctor.  12 Q. You have never held a license to  13 practice medicine in any country; correct?  14 A. No.  15 Q. Let me reask it. There was a  16 double negative there. Have you ever held a  17 license to practice medicine in any country?  18 A. No, I haven't.  19 Q. Have you ever attended medical  20 school?  21 A. No, I have not attended medical  22 school.  23 Q. Do you have any medical training  24 whatsoever?  25 A. Formal medical training, no.</p>

<p style="text-align: right;">Page 30</p> <p>1 Q. You are not a pathologist; correct?</p> <p>2 A. No, I'm not a pathologist.</p> <p>3 Q. You are not a cardiologist;</p> <p>4 correct?</p> <p>5 A. No, I'm not a cardiologist.</p> <p>6 Q. You are not a gynecologist;</p> <p>7 correct?</p> <p>8 A. No.</p> <p>9 Q. Are you a gynecologist?</p> <p>10 A. No, I'm not a gynecologist.</p> <p>11 Q. Are you an immunologist?</p> <p>12 A. Again, part of the reason why I</p> <p>13 brought this bio, my Ph.D. cosupervisor was</p> <p>14 an immunologist, and he's a well-recognized</p> <p>15 expert in autoimmune diseases. He was</p> <p>16 working especially on diabetes when I was in</p> <p>17 his lab. I spent over a year in Yehuda</p> <p>18 Shoenfeld's lab working mainly on</p> <p>19 Gardasil-related projects.</p> <p>20 I have an extensive collaboration</p> <p>21 with Yehuda. Because of the type of work I</p> <p>22 do, which basically involves neurology and</p> <p>23 immunology, that's all I've been reading and</p> <p>24 researching about for the last over ten-plus</p> <p>25 years, research literature -- scientific</p>	<p style="text-align: right;">Page 32</p> <p>1 POTS?</p> <p>2 A. No, I have not.</p> <p>3 Q. Have you ever diagnosed a patient</p> <p>4 with primary ovarian insufficiency, POI?</p> <p>5 A. No, I have not.</p> <p>6 Q. Have you ever treated a patient for</p> <p>7 POI?</p> <p>8 A. No.</p> <p>9 Q. Have you ever diagnosed the cause</p> <p>10 of someone's inflammation?</p> <p>11 A. No, ma'am.</p> <p>12 Q. Have you ever personally tested a</p> <p>13 patient for inflammation?</p> <p>14 A. No, I haven't.</p> <p>15 Q. Have you ever personally reviewed</p> <p>16 imaging related to anyone's inflammation?</p> <p>17 A. No.</p> <p>18 Q. Have you ever personally reviewed</p> <p>19 test results related to anyone's</p> <p>20 inflammation?</p> <p>21 A. Test results, well, I've seen</p> <p>22 medical records of plaintiffs that have --</p> <p>23 obviously they have blood test results and</p> <p>24 sometimes there are inflammatory markers</p> <p>25 there, so . . .</p>
<p style="text-align: right;">Page 31</p> <p>1 research literature on immunology and</p> <p>2 neurology because it's directly relevant to</p> <p>3 my work.</p> <p>4 Every basic scientist is trained to</p> <p>5 understand basic science concepts. During</p> <p>6 my Ph.D., I didn't attend medical school,</p> <p>7 but we had -- we had courses in human</p> <p>8 physiology and anatomy and histology. And</p> <p>9 so you need to have some basic</p> <p>10 understanding, and you get it during your</p> <p>11 formal training to know how the human body</p> <p>12 works.</p> <p>13 Q. Are you a medical doctor with a</p> <p>14 specialty in immunology?</p> <p>15 A. No, I'm not.</p> <p>16 Q. Are you a medical doctor with a</p> <p>17 specialty in rheumatology?</p> <p>18 A. No.</p> <p>19 Q. Are you a medical doctor with a</p> <p>20 specialty in neurology?</p> <p>21 A. I am not.</p> <p>22 Q. Have you ever diagnosed a patient</p> <p>23 with POTS?</p> <p>24 A. No, I have not.</p> <p>25 Q. Have you ever treated a patient for</p>	<p style="text-align: right;">Page 33</p> <p>1 Q. But you wouldn't be called on as a</p> <p>2 medical professional --</p> <p>3 A. No, of course, no.</p> <p>4 Q. -- to interpret those results?</p> <p>5 A. No.</p> <p>6 Q. Have you ever treated a patient in</p> <p>7 any capacity in your life?</p> <p>8 A. No, I haven't.</p> <p>9 Q. Have you ever diagnosed anyone with</p> <p>10 any disease?</p> <p>11 A. No.</p> <p>12 Q. Have you ever diagnosed the cause</p> <p>13 of anyone's disease?</p> <p>14 A. No.</p> <p>15 Q. Have you ever prescribed a vaccine</p> <p>16 for a patient?</p> <p>17 A. No.</p> <p>18 Q. Have you ever personally performed</p> <p>19 the diagnostic tests for POTS?</p> <p>20 A. No.</p> <p>21 Q. Have you ever personally performed</p> <p>22 the diagnostic test for POI?</p> <p>23 A. No, I haven't.</p> <p>24 Q. Have you ever personally performed</p> <p>25 the diagnostic test for chronic fatigue</p>

<p style="text-align: right;">Page 34</p> <p>1 syndrome?</p> <p>2 A. No.</p> <p>3 Q. And today for short, I'll call</p> <p>4 chronic fatigue syndrome CFS, if that's</p> <p>5 okay.</p> <p>6 A. Yes.</p> <p>7 Q. Have you ever -- strike that.</p> <p>8 Have you ever personally performed</p> <p>9 the diagnostic test for chronic regional</p> <p>10 pain syndrome, or CRPS?</p> <p>11 A. No, I haven't.</p> <p>12 Q. Have you ever prescribed medication</p> <p>13 for POTS, POI, CFS, or CRPS?</p> <p>14 A. No.</p> <p>15 Q. Have you ever prescribed any</p> <p>16 medication to a patient in your life?</p> <p>17 A. No, I haven't.</p> <p>18 Q. Do you have any clinical experience</p> <p>19 with patients?</p> <p>20 A. No, I haven't.</p> <p>21 Q. Do you consider yourself an expert</p> <p>22 in the clinical presentation of POTS?</p> <p>23 A. In the clinical presentation of</p> <p>24 POTS?</p> <p>25 Q. Correct.</p>	<p style="text-align: right;">Page 36</p> <p>1 were saying six, but now there's some</p> <p>2 reports that say it's three. In any case,</p> <p>3 it's got to be a chronic condition. And</p> <p>4 obviously there have to be -- there has to</p> <p>5 be an exclusion of other reasons, other</p> <p>6 possible causes of tachycardia such as</p> <p>7 hyperthyroidism and deconditioning.</p> <p>8 Q. And so just to clarify, you</p> <p>9 consider yourself an expert in the clinical</p> <p>10 presentation of POTS because you've read</p> <p>11 literature about POTS; is that correct?</p> <p>12 A. Again, I'm not a medical doctor,</p> <p>13 so --</p> <p>14 Q. So do you -- go ahead. Sorry.</p> <p>15 A. I cannot say I'm an expert to the</p> <p>16 same extent as Louise because I haven't</p> <p>17 treated patients, so. . .</p> <p>18 Q. That's why you consulted her in the</p> <p>19 first place because you don't consider</p> <p>20 yourself an expert in POTS; correct?</p> <p>21 ATTORNEY BAUM: Objection.</p> <p>22 Mischaracterizes her testimony.</p> <p>23 THE WITNESS: I'm not a clinical</p> <p>24 expert, but I've read -- I've read a</p> <p>25 large amount of literature on POTS. I</p>
<p style="text-align: right;">Page 35</p> <p>1 A. Well, I understand obviously from</p> <p>2 the literature how POTS is being diagnosed</p> <p>3 and what are the requirements for the</p> <p>4 diagnosis of POTS. So I don't know if that</p> <p>5 answers the question, but obviously there</p> <p>6 are diagnostic criteria for POTS, such as</p> <p>7 tachycardia upon changing of position, lying</p> <p>8 to standing, that has to be either over 30</p> <p>9 or 40 beats per minute depending on one's</p> <p>10 age.</p> <p>11 If it's teenagers between 12 and</p> <p>12 19 years of age, it's going to be 40 beats</p> <p>13 per minute, and it's got to be without</p> <p>14 orthostatic hypertension because if there's</p> <p>15 orthostatic hypertension, that's an</p> <p>16 exclusion criteria for POTS. It's not POTS.</p> <p>17 It's orthostatic hypertension.</p> <p>18 Obviously POTS is a syndrome that's</p> <p>19 chronic; so people may have tachycardia upon</p> <p>20 changing postures. But what distinguishes</p> <p>21 POTS is the symptoms of orthostatic</p> <p>22 intolerance need to be present for at least</p> <p>23 three to six months.</p> <p>24 There is some difference in the</p> <p>25 expert literature. In the beginning, they</p>	<p style="text-align: right;">Page 37</p> <p>1 have listened to many presentations of</p> <p>2 POTS by experts; so it's a far cry to</p> <p>3 say I know nothing about POTS.</p> <p>4 But as I said, I don't pretend to</p> <p>5 be a clinician because I'm clearly</p> <p>6 not. I'm not an M.D. But it doesn't</p> <p>7 mean I don't know anything about POTS</p> <p>8 and that I wouldn't know from the</p> <p>9 literature how to distinguish POTS</p> <p>10 from multiple sclerosis.</p> <p>11 BY ATTORNEY JULIEN:</p> <p>12 Q. Have you ever been tasked with</p> <p>13 determining whether anybody's POTS was</p> <p>14 autoimmune in nature?</p> <p>15 A. Have I ever been tasked to?</p> <p>16 Q. Uh-huh.</p> <p>17 A. No, not in particular, no.</p> <p>18 Q. Have you ever worked for the U.S.</p> <p>19 Food and Drug Administration, the FDA?</p> <p>20 A. No.</p> <p>21 Q. Have you ever worked for the</p> <p>22 European Medicines Agency, the EMA?</p> <p>23 A. No, I haven't.</p> <p>24 Q. Have you ever worked for any</p> <p>25 regulatory authority?</p>

<p style="text-align: right;">Page 38</p> <p>1 A. No.</p> <p>2 Q. Have you ever worked for any public</p> <p>3 health authority?</p> <p>4 A. No.</p> <p>5 Q. Did you have any responsibility for</p> <p>6 the 2015 Article 20 proceeding that occurred</p> <p>7 in the EMA?</p> <p>8 A. No, not -- no, I wasn't involved in</p> <p>9 that.</p> <p>10 Q. Have you ever been involved in the</p> <p>11 design of a clinical trial for a vaccine?</p> <p>12 A. No.</p> <p>13 Q. Have you ever served as a peer</p> <p>14 reviewer on a scientific journal?</p> <p>15 A. Yes, I have.</p> <p>16 Q. Which journal?</p> <p>17 A. Well, the latest was the</p> <p>18 International Journal of Risk in Medicines</p> <p>19 and Safety. I -- also Journal of</p> <p>20 Alzheimer's Disease. And I know over the</p> <p>21 years, I did -- I was sent papers to review,</p> <p>22 but my memory doesn't go as far to tell you</p> <p>23 which journals exactly.</p> <p>24 Q. Can we take a look at your CV,</p> <p>25 which we marked as Exhibit 2 to your</p>	<p style="text-align: right;">Page 40</p> <p>1 Ophthalmology and Visual Sciences University</p> <p>2 of British Columbia from December of 2010 to</p> <p>3 May of 2017; is that correct?</p> <p>4 A. Yes.</p> <p>5 Q. In your role as a research fellow</p> <p>6 at Dr. Shaw's lab, you coauthored a number</p> <p>7 of publications with Dr. Shaw; right?</p> <p>8 A. Yes.</p> <p>9 Q. And you mentioned earlier that you</p> <p>10 worked as a research fellow at the</p> <p>11 Zabłudowicz --</p> <p>12 A. Zabłudowicz Center, yes.</p> <p>13 Q. -- Center for Autoimmune Diseases</p> <p>14 at Shea Medical Center in Tel Aviv from 2013</p> <p>15 through 2014?</p> <p>16 A. Yes.</p> <p>17 Q. And you worked as a research fellow</p> <p>18 under the leadership of Dr. Yehuda</p> <p>19 Shoenfeld, according to your report?</p> <p>20 A. Yes.</p> <p>21 Q. Are you aware that Dr. Shoenfeld is</p> <p>22 a paid plaintiff's expert in this case just</p> <p>23 like you?</p> <p>24 A. Yes.</p> <p>25 Q. You've only given two talks as an</p>
<p style="text-align: right;">Page 39</p> <p>1 deposition.</p> <p>2 Is your CV up to date and accurate?</p> <p>3 A. I noticed that there's a missing</p> <p>4 publication, and it's from my Ph.D. work.</p> <p>5 Q. Do you have the title of that?</p> <p>6 That's okay if you're not able.</p> <p>7 A. I actually have it on my computer.</p> <p>8 Q. You can take a look at a break, and</p> <p>9 we can get the name of that.</p> <p>10 A. Yes.</p> <p>11 Q. Other than the missing publication,</p> <p>12 anything else?</p> <p>13 A. No. I know what the publication is</p> <p>14 about.</p> <p>15 Q. Are you currently affiliated with</p> <p>16 any academic research institution?</p> <p>17 A. Currently not.</p> <p>18 Q. The last time you were affiliated</p> <p>19 with an academy research institution was</p> <p>20 2017?</p> <p>21 A. Yeah, that would be 2017.</p> <p>22 Q. And -- strike that.</p> <p>23 You worked at Dr. Christopher</p> <p>24 Shaw's research lab as a post-doctoral</p> <p>25 research fellow at the Department of</p>	<p style="text-align: right;">Page 41</p> <p>1 invited speaker since 2015; is that correct?</p> <p>2 A. Yeah, I believe so.</p> <p>3 Q. Looks like you gave a talk as an</p> <p>4 invited speaker in 2016?</p> <p>5 A. And 2024.</p> <p>6 Q. Okay. So you gave -- the last two</p> <p>7 talks that you've given as an invited</p> <p>8 speaker since 2015 were in 2016 and this</p> <p>9 year in 2024; is that right?</p> <p>10 A. Yes.</p> <p>11 Q. And then according to your CV, you</p> <p>12 have served as a research consultant for</p> <p>13 Wisner Baum since November of 2021?</p> <p>14 A. Correct.</p> <p>15 Q. Do you still currently serve as a</p> <p>16 research consultant for Wisner Baum?</p> <p>17 A. Well, I'm an expert witness, and a</p> <p>18 research consultant goes with it.</p> <p>19 Q. And do you understand that Wisner</p> <p>20 Baum is plaintiff's counsel in this case?</p> <p>21 You're joined here by Mr. Baum himself;</p> <p>22 right?</p> <p>23 A. Right.</p> <p>24 Q. Now, prior to November of 2021, did</p> <p>25 you do any work for Wisner Baum?</p>

<p style="text-align: right;">Page 42</p> <p>1 A. Prior to November, 2021, no.</p> <p>2 Q. So just to clarify, do you</p> <p>3 understand that you are currently a research</p> <p>4 consultant for Wisner Baum, as you sit here</p> <p>5 today?</p> <p>6 A. Yes.</p> <p>7 Q. And I assume that you were being</p> <p>8 paid by Wisner Baum for your work as a</p> <p>9 research consultant?</p> <p>10 A. Well, only since July because,</p> <p>11 again, as you've seen from my CV, I was</p> <p>12 initially hired by CHD because Robert</p> <p>13 Kennedy is a co-counsel in this litigation.</p> <p>14 So CHD was initially paying my salary up</p> <p>15 until ending with June, 2024.</p> <p>16 Q. Just to be clear, prior to July</p> <p>17 of 2024, you had not received payment from</p> <p>18 Wisner Baum; is that correct?</p> <p>19 A. Yeah, no, I haven't. I still</p> <p>20 haven't received payment because I only</p> <p>21 submitted my invoices, like, few days ago.</p> <p>22 ATTORNEY BAUM: Try to just answer</p> <p>23 the question.</p> <p>24 BY ATTORNEY JULIEN:</p> <p>25 Q. While we're on that topic, I will</p>	<p style="text-align: right;">Page 44</p> <p>1 work as a plaintiff's expert in this case?</p> <p>2 A. Yes.</p> <p>3 Q. Are you being paid \$350 an hour to</p> <p>4 testify here today?</p> <p>5 A. I don't know. I haven't discussed</p> <p>6 that.</p> <p>7 Q. Would you be paid \$350 an hour if</p> <p>8 this matter were to go to trial and you had</p> <p>9 to testify there?</p> <p>10 A. And, again, I don't know because we</p> <p>11 haven't discussed that at all.</p> <p>12 Q. Exhibit 8 is a combination of three</p> <p>13 different invoices.</p> <p>14 They are all dated October 14,</p> <p>15 2024; is that correct?</p> <p>16 A. Yeah, because that's when I</p> <p>17 submitted them.</p> <p>18 Q. Okay. Invoice 1 is for the month</p> <p>19 of July, and it totals \$72,450; correct?</p> <p>20 A. Yes.</p> <p>21 Q. Invoice 2 is for the month of</p> <p>22 August, 2024, and it totals \$96,250;</p> <p>23 correct?</p> <p>24 A. Yes.</p> <p>25 Q. And invoice 3 is for the month of</p>
<p style="text-align: right;">Page 43</p> <p>1 mark your invoices as Exhibit 8.</p> <p>2 (Exhibit Number 8 was marked for</p> <p>3 identification.)</p> <p>4 BY ATTORNEY JULIEN:</p> <p>5 Q. Doctor, I've marked your -- the</p> <p>6 invoices that were produced to me yesterday</p> <p>7 as Exhibit 8 to your deposition.</p> <p>8 ATTORNEY BAUM: Which exhibit</p> <p>9 number is this?</p> <p>10 ATTORNEY JULIEN: 8.</p> <p>11 BY ATTORNEY JULIEN:</p> <p>12 Q. And your -- so just to be clear,</p> <p>13 Exhibit 8 to your deposition, that is a</p> <p>14 combination of three different invoices</p> <p>15 that --</p> <p>16 A. Yeah.</p> <p>17 Q. -- you have, I guess, issued</p> <p>18 related to your work as an expert?</p> <p>19 A. Yes.</p> <p>20 Q. And your disclosure indicates that</p> <p>21 your hourly rate is \$350 an hour?</p> <p>22 A. Yes.</p> <p>23 Q. Is that correct?</p> <p>24 A. It is.</p> <p>25 Q. You charge \$350 an hour for your</p>	<p style="text-align: right;">Page 45</p> <p>1 September, 2024 and totals \$55,300; correct?</p> <p>2 A. Correct.</p> <p>3 Q. In sum, the produced -- strike</p> <p>4 that.</p> <p>5 In sum, your produced invoices</p> <p>6 related to your work in this case total</p> <p>7 \$224,000; is that correct?</p> <p>8 A. Correct.</p> <p>9 Q. Going back to your CV, you have</p> <p>10 also worked as a research consultant for the</p> <p>11 Children's Health Defense since November</p> <p>12 of 2021?</p> <p>13 A. Correct. I have, but it was</p> <p>14 exclusively related to the Gardasil</p> <p>15 litigation because that's what I was hired</p> <p>16 for.</p> <p>17 Q. Prior to November of 2021, did you</p> <p>18 do any work for Children's Health Defense?</p> <p>19 A. No.</p> <p>20 Q. Do you currently serve as a</p> <p>21 research consultant for Children's Health</p> <p>22 Defense, as you sit here today?</p> <p>23 A. No, I don't.</p> <p>24 Q. When did you stop working as a</p> <p>25 research consultant for the Children's</p>

12 (Pages 42 - 45)



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1 Health Defense?  
2 A. So that would be end of June.  
3 Q. June, 2024?  
4 A. June, 2024, yes.  
5 Q. So from -- strike that.  
6 From November, 2021 until June  
7 of 2024, you served as a research consultant  
8 for both Wisner Baum and the Children's  
9 Health Defense?  
10 A. Can you repeat that? Sorry.  
11 Q. From November, 2021 --  
12 A. Yeah.  
13 ATTORNEY BAUM: Just --  
14 ATTORNEY JULIEN: Yeah.  
15 ATTORNEY BAUM: I think you're  
16 misreading what her CV says.  
17 ATTORNEY JULIEN: Oh, okay. I'll  
18 reask the question.  
19 BY ATTORNEY JULIEN:  
20 Q. So from November of 2021 until June  
21 of 2024, you served as a research consultant  
22 for Wisner Baum and Children's Health  
23 Defense?  
24 A. Yeah, I don't think she's  
25 misreading, but there is a slight inaccuracy

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1 because --  
2 ATTORNEY BAUM: Oh, okay.  
3 THE WITNESS: Yeah, there is --  
4 BY ATTORNEY JULIEN:  
5 Q. Can you clarify?  
6 A. Yeah, there is a slight inaccuracy  
7 because I stopped working for Children's  
8 Health Defense and stopped receiving salary  
9 after June. So June, 2024 was my last  
10 salary, and that's where I stopped working,  
11 and I began working exclusively for Wisner  
12 Baum.  
13 Q. Okay. So let me reask and just  
14 make sure this is clear.  
15 ATTORNEY BAUM: Let me just --  
16 THE WITNESS: So from --  
17 ATTORNEY BAUM: -- clarify. She's  
18 a little confused. She was retained  
19 as an expert and became an expert  
20 starting in that period of time, and  
21 she began billing as an expert at that  
22 point in time. She was not a salaried  
23 employee.  
24 ATTORNEY JULIEN: Okay.  
25 ///

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1 BY ATTORNEY JULIEN:  
2 Q. So let me ask it this way: From  
3 November of 2021 until June of 2024, you  
4 served as a research consultant for the  
5 Children's Health Defense?  
6 A. And Wisner Baum, even though  
7 Children's Health Defense was paying my  
8 salary. But I was a research consultant for  
9 Wisner Baum because, again, that's what I  
10 was hired.  
11 Q. And in June -- or excuse me.  
12 Strike that.  
13 In July of 2024 to the present, you  
14 stopped being paid by the Children's Health  
15 Defense and started being paid by Wisner  
16 Baum as an expert in this case?  
17 A. Correct.  
18 ATTORNEY BAUM: That's actually  
19 not just Wisner Baum. It's for the  
20 litigation committee.  
21 BY ATTORNEY JULIEN:  
22 Q. You understand that Robert F.  
23 Kennedy, Jr. is the founder of the  
24 Children's Health Defense?  
25 A. I do.

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1 Q. And I assume you understand that  
2 Robert F. Kennedy, Jr. is a plaintiff lawyer  
3 in this case?  
4 A. Yes.  
5 Q. What -- what was your annual salary  
6 for the Children's Health Defense?  
7 A. Well, it was an hourly salary, and  
8 I started at \$25 per hour for the first  
9 year, and then they increased it to \$50 per  
10 hour.  
11 Q. How much would you estimate that  
12 you received per year from the Children's  
13 Health Defense from 2021 until you stopped  
14 working for them this year?  
15 A. I don't like guessing, but I was  
16 normally working pretty much -- well,  
17 40 hours a week. So it would be around 160,  
18 170 hours per month. And when the salary  
19 was increased, that was between 8- to \$9,000  
20 a month.  
21 Q. Do you have invoices or  
22 documentation showing your payments from the  
23 Children's Health Defense?  
24 A. Not invoices because the way it  
25 worked is this online program, BambooHR. I

<p style="text-align: right;">Page 50</p> <p>1 suppose you guys are familiar with it. It's  2 not just like -- Children's Health Defense  3 is not the only organization that uses it.  4 Basically, you have a password, and  5 you log your hours. And then every month,  6 it's submitted to their HR department and  7 then they pay you because obviously they  8 have your account details. But there's no  9 paperwork because everything was online.  10 Again, you log in, you log in your  11 hours, and put a description of work, what  12 you worked on, and it's autosubmitted at the  13 end of every month.  14 ATTORNEY JULIEN: We'll be asking  15 for a production of whatever  16 documentation she has or has access to  17 regarding her payments from the  18 Children's Health Defense.  19 BY ATTORNEY JULIEN:  20 Q. Has your work for Wisner Baum and  21 the Children's -- well, strike that.  22 Has your work for plaintiff's  23 counsel and the Children's Health Defense  24 been your only source of income since 2021?  25 A. Yeah.</p>	<p style="text-align: right;">Page 52</p> <p>1 again, who works in the same field,  2 emailed me to tell me that his  3 research paper has -- well, he  4 submitted it for publication, and it  5 was outright rejected by the editor  6 under -- this was the explanation.  7 This paper is inadmissible because it  8 questions the safety of vaccines.  9 Which is pretty ridiculous because  10 it's, like, so we are not allowing any  11 research that is critical of vaccines.  12 That's the reason. We're not  13 going to read the paper, see whether  14 it's scientifically sound, whether the  15 conclusions are supported by the data.  16 We just don't want to admit anything  17 that's critical of vaccines.  18 Again, to me, that's not science.  19 That's like a cult religion. I have  20 to also give a background why I came  21 to my views.  22 ATTORNEY BAUM: I'm just going to  23 stop you there. Try to answer just  24 the question she's asked.  25 THE WITNESS: Okay.</p>
<p style="text-align: right;">Page 51</p> <p>1 Q. Doctor, is it fair you do not hold  2 conventional views that are aligned with  3 mainstream -- strike that.  4 Is it fair to say you hold  5 unconventional views that are not aligned  6 with the mainstream scientific community?  7 ATTORNEY BAUM: Objection. Vague,  8 misstating.  9 THE WITNESS: Well, I hold some  10 views that a lot of scientists don't  11 agree with, but then there's a lot of  12 scientists that do agree with them.  13 And they are very well-backed by  14 research literature.  15 But there is certain politics and  16 financial interests involved to  17 suppress this kind of research. And  18 there is, in my opinion, science has  19 almost become like a religion because  20 you're not allowed to challenge  21 certain things because they're so  22 widely accepted, even though they're  23 not very well established.  24 And here is one example that I can  25 well identify with where a colleague,</p>	<p style="text-align: right;">Page 53</p> <p>1 ATTORNEY BAUM: She'll get there.  2 ///  3 BY ATTORNEY JULIEN:  4 Q. Doctor, do you believe in  5 evolution?  6 ATTORNEY BAUM: Objection.  7 Irrelevant.  8 THE WITNESS: I believe in  9 microevolution, speciation.  10 BY ATTORNEY JULIEN:  11 Q. You believe in -- sorry,  12 speciation? Is that what you said?  13 A. I actually worked in a  14 developmental evolutionary -- the short for  15 it is evol/devel app, so evolution and  16 development. That was my Ph.D. work.  17 It's a publication that I haven't  18 put on my CV, but basically my research  19 supervisor -- he actually was interested --  20 he was researching specifically corals  21 because the university I graduated from is a  22 marine biology-centered university.  23 But what he found is that there's a  24 lot of genes that corals share in common  25 with higher species, including vertebrates.</p>

14 (Pages 50 - 53)



<p style="text-align: right;">Page 54</p> <p>1 What we were doing, and that's the paper  2 that was published, is these genes were  3 involved in development. So one of the  4 experiments that we have done is we  5 identified the same set of genes in flies  6 that are responsible for head development,  7 and we were engineering mutant flies that do  8 not express the gene.  9 The result of it is that the fly  10 didn't develop the head properly. And we  11 were able to rescue that mutant by  12 transferring genes from corals, the same  13 homologous genes in corals and expressing it  14 in flies, and that would rescue the mutant  15 phenotype.  16 So this shows that there is common  17 building blocks across most phyla, and it  18 supports -- again, supports certain --  19 again, certain common pathways across all  20 phyla.  21 Q. Doctor, you have called evolution  22 pseudoscience; correct?  23 ATTORNEY BAUM: Objection. If you  24 have a reference that you're referring  25 to, please provide the piece of paper.</p>	<p style="text-align: right;">Page 56</p> <p>1 going back on the record, and the time  2 is 9:59 a.m.  3 ATTORNEY BAUM: Okay. I just want  4 to lodge a couple of objections. It  5 sounds like you're getting ready to,  6 number one, play some things that are  7 not part of her reliance materials.  8 Number two, you are asking  9 questions about things that are not  10 related to her opinions. It looks  11 like you're trying to go into what  12 looks like religious beliefs, which  13 are objectionable under Federal Rule  14 of Evidence 610 and California Rule of  15 Evidence 789.  16 I'm going to direct her not to  17 answer any questions that relate to  18 this line of questioning.  19 ATTORNEY JULIEN: Okay. So we'll  20 just plan to bring you back,  21 Dr. Tomljenovic, to ask you about your  22 publicly available statements about  23 evolution. But I am going to mark  24 this video as Exhibit 9 to your  25 deposition.</p>
<p style="text-align: right;">Page 55</p> <p>1 BY ATTORNEY JULIEN:  2 Q. You have called evolution  3 pseudoscience; correct?  4 ATTORNEY BAUM: Objection. Do you  5 have a piece of paper that you're  6 referring to?  7 ATTORNEY JULIEN: I am able to ask  8 the questions I want to ask. Thank  9 you. That's not a form objection.  10 BY ATTORNEY JULIEN:  11 Q. Have you called evolution  12 pseudoscience?  13 A. Can you tell me where does that  14 come from? Because I don't remember  15 everything I said. I'm not saying I didn't  16 say it, but I would like to see the whole  17 context.  18 ATTORNEY JULIEN: Can we go off  19 the record for a moment?  20 THE VIDEOGRAPHER: We are now  21 going off the record, and the time is  22 9:56 a.m.  23 (Recess taken from 9:56 a.m. to  24 9:59 a.m.)  25 THE VIDEOGRAPHER: We are now</p>	<p style="text-align: right;">Page 57</p> <p>1 (Exhibit Number 9 was marked for  2 identification.)  3 BY ATTORNEY JULIEN:  4 Q. This is, again, a publicly  5 available video interview that you gave.  6 ATTORNEY BAUM: Again, I object to  7 any questioning that doesn't relate to  8 her opinions in this case.  9 ATTORNEY JULIEN: Let me restart  10 it. I think you were talking when it  11 was playing.  12 (Video played.)  13 THE WITNESS: Yeah, I remember  14 that.  15 ATTORNEY BAUM: I'm going to  16 object to this line of questioning.  17 It's outside the scope of her opinions  18 and is a violation of the Federal  19 Rules of Evidence under 610 and  20 California Evidence Code 789.  21 ATTORNEY JULIEN: And I believe  22 this is relevant. It is absolutely  23 relevant for purposes of the judge and  24 jury to hear her views on accepted  25 science, and it goes to the</p>

15 (Pages 54 - 57)

<p style="text-align: right;">Page 58</p> <p>1 reliability of her assessment here.  2 So I'm going to ask my questions.  3 BY ATTORNEY JULIEN:  4 Q. If he instructs you not to answer,  5 that's fine, and we will just plan to bring  6 you back, again, to ask you these questions  7 that, again, go directly to the  8 believability of your opinions.  9 You have called evolution  10 pseudoscience; correct?  11 ATTORNEY BAUM: Objection. You're  12 asking and directing a line of  13 questioning that's related to  14 religious opinions and are outside the  15 scope of her opinions and reliance  16 materials in this case.  17 THE WITNESS: And I -- yeah, I  18 don't know if I can -- if we can have  19 a confer because, again, I was  20 expecting this. So it's not that I'm  21 unprepared to answer, so. . .  22 BY ATTORNEY JULIEN:  23 Q. You were expecting it, Doctor,  24 because you --  25 ATTORNEY BAUM: Let's take a break</p>	<p style="text-align: right;">Page 60</p> <p>1 are starting, again, to go off into --  2 ATTORNEY JULIEN: You can state  3 the same objection as before just to  4 save time.  5 ATTORNEY BAUM: Same objection.  6 BY ATTORNEY JULIEN:  7 Q. You have described evolution as a  8 fable?  9 ATTORNEY BAUM: Objection. Same  10 objection.  11 BY ATTORNEY JULIEN:  12 Q. You have called evolution a lie?  13 ATTORNEY BAUM: Objection. That,  14 again, is not calling for opinions  15 related to her -- this case and is  16 invading areas that are potentially  17 religious beliefs.  18 THE WITNESS: They are not  19 potentially. Just religion.  20 ATTORNEY JULIEN: Just for the  21 record, we disagree. We reserve our  22 right to bring Dr. Tomljenovic back  23 and ask her about such questions at  24 trial, and we believe that this goes  25 directly to the reliability of her</p>
<p style="text-align: right;">Page 59</p> <p>1 1 and let me have a conference with her.  2 2 THE VIDEOGRAPHER: We are now  3 3 going off the record, and the time is  4 4 10:03 a.m.  5 10:03 5 (Recess taken from a.m. to  6 6 10:19 a.m.)  7 7 THE VIDEOGRAPHER: We are now  8 8 going back on the record, and the time  9 9 is 10:19 a.m.  10 10 BY ATTORNEY JULIEN:  11 11 Q. Dr. Tomljenovic, the video that I  12 12 marked as Exhibit 9, that was you in that  13 13 video; correct?  14 14 A. Yeah, it was. It was me.  15 15 ATTORNEY JULIEN: I would like to  16 16 create a placeholder Exhibit 10. We  17 17 will create a transcript of that video  18 18 to be sent at a later time.  19 19 (Exhibit Number 10 was marked for  20 20 identification.)  21 21 BY ATTORNEY JULIEN:  22 22 Q. Just to create the clear record,  23 23 you have described evolution as  24 24 pseudoscience; correct?  25 25 ATTORNEY BAUM: Objection. You</p>	<p style="text-align: right;">Page 61</p> <p>1 scientific opinions in this case.  2 ///  3 BY ATTORNEY JULIEN:  4 Q. Doctor, you have identified 34  5 research articles that you've authored or  6 coauthored in your CV, which we marked as  7 Exhibit 6 to your deposition.  8 A. Right.  9 Q. And I think you mentioned there  10 might be a few others from when you were  11 still a student?  12 A. Yeah.  13 Q. Now, 20 of the 34 research articles  14 that you disclosed in your CV include notes  15 of support or funding by the Dwoskin Family  16 Foundation.  17 A. Uh-huh.  18 Q. Is that correct?  19 A. Yes.  20 Q. And two of your 34 articles  21 disclose or -- strike that.  22 Two of your 34 articles disclose  23 support or funding for your work by the  24 Children's Medical Safety Research Institute  25 or CMSRI.</p>

16 (Pages 58 - 61)

<p style="text-align: right;">Page 62</p> <p>1 A. Yes.</p> <p>2 Q. And you know that CMSRI was founded</p> <p>3 and funded by Claire Dwoskin?</p> <p>4 A. Yes.</p> <p>5 Q. Doing a little math, about</p> <p>6 two-thirds of your research articles have</p> <p>7 been funded by the Dwoskin family or</p> <p>8 organizations affiliated with it?</p> <p>9 A. Correct.</p> <p>10 Q. How much would you estimate that</p> <p>11 you received over the years in funding for</p> <p>12 your research from the Dwoskin Family</p> <p>13 Foundation or affiliated organizations?</p> <p>14 A. I really don't know. I think I had</p> <p>15 those figures somewhere, but I cannot</p> <p>16 estimate because I'm just probably going to</p> <p>17 be off.</p> <p>18 Q. Would you say it's hundreds of</p> <p>19 thousands?</p> <p>20 A. Well, it is definitely hundreds of</p> <p>21 thousands. It would be probably over half</p> <p>22 a million because, I mean, research costs</p> <p>23 money.</p> <p>24 Q. So you would say that you have</p> <p>25 received over half a million dollars in</p>	<p style="text-align: right;">Page 64</p> <p>1 somewhere?</p> <p>2 A. I personally don't.</p> <p>3 Q. Do you have access to it?</p> <p>4 A. Not really because that was kind of</p> <p>5 the responsibility or -- of my supervisor,</p> <p>6 Chris Shaw.</p> <p>7 Q. Christopher Shaw?</p> <p>8 A. Yeah.</p> <p>9 Q. Was 2011 the first time that you</p> <p>10 accepted research funding from the Dwoskin</p> <p>11 family?</p> <p>12 A. Yeah.</p> <p>13 Q. When was the last time you accepted</p> <p>14 research funding from the Dwoskin family?</p> <p>15 A. I can't --</p> <p>16 ATTORNEY BAUM: Objection. Vague.</p> <p>17 Are you asking for her personally or</p> <p>18 for the --</p> <p>19 ATTORNEY JULIEN: You can object</p> <p>20 vague.</p> <p>21 ATTORNEY BAUM: -- or for the</p> <p>22 employer, her employers received the</p> <p>23 funding?</p> <p>24 ATTORNEY JULIEN: I'm going to</p> <p>25 leave my question as it stands.</p>
<p style="text-align: right;">Page 63</p> <p>1 funding for your research from the Dwoskin</p> <p>2 Family Foundation and organizations</p> <p>3 affiliated with the Dwoskin family; is that</p> <p>4 right?</p> <p>5 ATTORNEY BAUM: Objection. Vague.</p> <p>6 THE WITNESS: I'm not certain, but</p> <p>7 I think this is -- I don't think I'm</p> <p>8 wrong on that because, again, I know</p> <p>9 how much research costs and how much</p> <p>10 it costs just to run a lab for a year</p> <p>11 with a post-doc and research tech. I</p> <p>12 don't know --</p> <p>13 ATTORNEY BAUM: Is your question</p> <p>14 has she personally received or what</p> <p>15 the research received?</p> <p>16 THE WITNESS: I have not</p> <p>17 personally received. My salary was</p> <p>18 about between 42- and \$50,000 per</p> <p>19 year, which is standard salary for</p> <p>20 post-doc.</p> <p>21 BY ATTORNEY JULIEN:</p> <p>22 Q. Do you have documentation anywhere</p> <p>23 of the funding that you, your research lab,</p> <p>24 received from the Dwoskin family or</p> <p>25 affiliated organizations? Do you have that</p>	<p style="text-align: right;">Page 65</p> <p>1 BY ATTORNEY JULIEN:</p> <p>2 Q. Are you aware --</p> <p>3 ATTORNEY BAUM: What's the</p> <p>4 definition of you?</p> <p>5 ATTORNEY JULIEN: Thank you.</p> <p>6 BY ATTORNEY JULIEN:</p> <p>7 Q. Are you aware that Claire Dwoskin</p> <p>8 once called vaccines a Holocaust of poison</p> <p>9 on our children's brains?</p> <p>10 ATTORNEY BAUM: Objection.</p> <p>11 Irrelevant.</p> <p>12 THE WITNESS: No.</p> <p>13 BY ATTORNEY JULIEN:</p> <p>14 Q. Do you agree with Claire Dwoskin</p> <p>15 that vaccines are a Holocaust of poison on</p> <p>16 our children's brains?</p> <p>17 (Unreportable simultaneous</p> <p>18 speaking interrupted by the Certified</p> <p>19 Stenographer.)</p> <p>20 ATTORNEY BAUM: Objection. You're</p> <p>21 starting, again, to wander into</p> <p>22 religious beliefs as opposed to the</p> <p>23 scientific opinions that are</p> <p>24 presented.</p> <p>25 ///</p>

<p style="text-align: right;">Page 66</p> <p>1 BY ATTORNEY JULIEN:  2 Q. You can answer the question.  3 A. Yeah, well, I don't agree because,  4 I mean, Holocaust is -- I agree that the  5 second world war was perpetrated on the Jews  6 was a Holocaust because it's, like,  7 termination. You lead someone into a gas  8 chamber, I mean, they're not going to come  9 out alive. And to call vaccines a  10 Holocaust, well, that's not true, because  11 that would imply that every single vaccine  12 kills someone, and that's clearly not the  13 case.  14 Q. Was today the first time that you  15 heard that Claire Dwoskin said that?  16 A. Today. I've never heard that  17 before.  18 Q. Doctor, you agree that, even under  19 your theory, not all POTS is autoimmune in  20 nature?  21 A. Yeah, no, definitely not all POTS  22 is autoimmune.  23 Q. I know you're not a medical doctor,  24 but you would agree that there are a number  25 of recognized triggers of POTS including</p>	<p style="text-align: right;">Page 68</p> <p>1 A. No, there is no objective test that  2 would unequivocally prove --  3 Q. The -- I'm sorry.  4 A. Yeah, there's no test that would  5 tell us this POTS was caused by Gardasil,  6 no.  7 Q. The vast majority of those with  8 POTS are females of child-bearing age?  9 A. Correct.  10 Q. POTS primarily affects females  11 around puberty through child-bearing age?  12 A. Correct, that's the. . .  13 Q. The most common -- sorry.  14 A. Yeah, that's the age group that  15 POTS is most prevalent in, that age group,  16 and, yeah, females.  17 Q. The most common age of onset of  18 POTS is 14 years old?  19 A. Around that. Puberty.  20 Q. POTS is difficult to diagnose,  21 regardless of HPV vaccination status;  22 correct?  23 A. It is difficult because it's a  24 syndrome that's relatively recently been  25 recognized, and there's not that many</p>
<p style="text-align: right;">Page 67</p> <p>1 concussion, infection, and pregnancy?  2 A. Correct. That's also what I wrote  3 in my report.  4 Q. The exact cause of POTS is not  5 known; correct?  6 A. The exact cause like trigger or --  7 there's different forms of POTS, like  8 hyperadrenergic, neuropathic, hypovolemic.  9 And so there are mechanisms that are  10 proposed to explain these different types of  11 POTS.  12 Q. Is POTS a signature disease of  13 Gardasil?  14 A. A signature disease of Gardasil?  15 Q. Let me ask it differently. I'll  16 strike that.  17 POTS existed before Gardasil came  18 on the market in 2006; correct?  19 A. Oh, yeah, absolutely.  20 Q. A person can develop POTS who has  21 never received Gardasil; correct?  22 A. Yeah, I'll just -- yeah.  23 Q. There is no objective test that  24 determines that a person's POTS was caused  25 by Gardasil even under your theory; correct?</p>	<p style="text-align: right;">Page 69</p> <p>1 specialist groups. The deal with POTS,  2 though, it's -- primary care providers  3 are -- generally, they have low awareness,  4 and that's why a lot of POTS gets  5 underdiagnosed and misdiagnosed.  6 Q. And you agree that POTS is  7 difficult to diagnose, even under your  8 theory, whether or not you received  9 Gardasil; correct?  10 A. Well, if a person can get to a  11 dysautonomia specialist that is familiar  12 with POTS, or more than familiar, someone  13 like Louise Brinth or someone like about  14 Satish Raj, his group. They'll run a test,  15 and it's not going to be hard to diagnose  16 because these are specialists that know how  17 to diagnose POTS, know how to exclude  18 conditions that could -- alternative  19 explanations for tachycardia.  20 But again, there's not that many  21 groups. Because of that, it's generally  22 difficult to diagnose because, again,  23 surveys show -- one of the largest  24 surveys -- there's been a couple of those,  25 but the largest surveys shows huge</p>

<p style="text-align: right;">Page 70</p> <p>1 diagnostic delays and how patients have to  2 see multiple doctors before they finally get  3 a POTS diagnosis.  4 Once they get to a doctor that  5 actually knows about POTS, then they do  6 receive a diagnosis.  7 Q. Autoantibodies can identify  8 patients whose POTS is autoimmune?  9 A. Autoantibodies it's one strong  10 indication that POTS could be autoimmune or  11 it's more likely than not it's autoimmune,  12 especially if there is autoantibodies.  13 Again, receptors that have been implicated  14 in the pathogenesis of POTS.  15 Q. Can you clarify the first part of  16 your answer there? Did you say all one  17 strong indication?  18 A. Say that again.  19 Q. I was trying to clarify. I wanted  20 to just clarify your answer. So did you say  21 all one strong indication?  22 A. Yeah, I said that the presence of  23 autoantibodies, if they're autoantibodies  24 against receptors that have been implicated  25 in the pathogenesis of POTS, they are a</p>	<p style="text-align: right;">Page 72</p> <p>1 ELISA, ELISA is not a -- it would not be a  2 clinically good method to evaluate  3 autoantibodies in POTS.  4 But studies that have used  5 functional assays -- well, such as Jesper  6 Mehlsen. Again, he was using an assay that  7 employs the cardiomyocytes; so he can  8 directly see the effect of these  9 autoantibodies on basically contraction of  10 heart cells.  11 So, again, that's a different  12 story. And his research found that those  13 that have suffered dysautonomia following  14 Gardasil vaccination have a higher  15 proportion, much higher proportion --  16 significantly higher proportion of these  17 autoantibodies compared to those that were  18 free of -- free of any symptoms related to  19 dysautonomia.  20 Q. Studies like Hall 2012 discussed in  21 your report found that the majority of  22 patients with POTS and all controls had  23 tested positive for the alpha1-adrenergic  24 receptors in autoantibodies; correct?  25 A. Yeah, and that's the whole study</p>
<p style="text-align: right;">Page 71</p> <p>1 rather strong indicator that POTS could be  2 autoimmune.  3 ATTORNEY BAUM: I think the word  4 she said there was are.  5 ATTORNEY JULIEN: Thank you.  6 BY ATTORNEY JULIEN:  7 Q. Autoantibodies can be found in  8 healthy individuals as well; correct?  9 A. Yes, they can. But with POTS it's  10 not just the presence, it's the function of  11 these autoantibodies.  12 Q. Okay. So you agree that even if a  13 patient tests positive for an autoantibody  14 implicated in the pathogenesis of POTS, it's  15 not just the mere presence, but rather the  16 activity of autoantibodies that determines  17 their clinical relevance?  18 A. Exactly, yeah. That's why methods  19 that rely on ELISA cannot provide a good  20 answer because ELISA -- it cannot measure  21 the activity of the autoantibodies. It just  22 tells us autoantibodies are there, and  23 that's why one of the studies that employed  24 ELISA showed that while autoantibodies are  25 present in healthy people. So based on</p>	<p style="text-align: right;">Page 73</p> <p>1 that used the ELISA method. The authors  2 themselves said that their study does not  3 exclude the role of autoantibodies in POTS  4 because some of the coauthors of that paper  5 actually authored other papers dealing with  6 functional assays that found differences  7 between POTS and non-POTS patients. Again,  8 I've documented these in my report.  9 Q. Doctor, you agree that chronic  10 fatigue syndrome existed before Gardasil  11 came on the market in 2006?  12 A. Yeah, definitely.  13 Q. Do you agree that POI existed  14 before Gardasil came on the market in 2006?  15 A. Yes.  16 Q. There is -- strike that.  17 Young women will be diagnosed with  18 POI who have never received Gardasil;  19 correct?  20 A. Yes.  21 Q. Not all POI is autoimmune in  22 nature?  23 A. No.  24 Q. Let me state it this way: Is all  25 POI autoimmune in nature?</p>



<p style="text-align: right;">Page 74</p> <p>1 A. No, not all POI is autoimmune in 2 nature. 3 Q. Autoimmune disease existed before 4 Gardasil came on the market in 2006? 5 A. Yeah, absolutely. 6 Q. People will be diagnosed with 7 autoimmune disease who have never received 8 Gardasil; correct? 9 A. Correct. 10 Q. If we look at your report at 11 page 39 -- let me pull it up. 12 A. Is that the part 1? 13 Q. Yeah, let me see here. 14 A. It's not part 1. Yeah, it is. 15 Q. I would like to direct you to 16 part -- I believe it's 2, part 2 of your 17 report, page 39. 18 A. Yeah, so it's the conclusions; 19 right? 20 Q. Yes. You opine: It is my opinion 21 to a reasonable degree of scientific 22 certainty that Gardasil vaccination is a 23 substantial factor and can be a catalyst for 24 the development of autoimmune diseases and 25 syndromes, including those that impair the</p>	<p style="text-align: right;">Page 76</p> <p>1 excessive vaccine-induced system 2 inflammatory response; is that right? 3 A. Yes. 4 Q. Molecular mimicry is the theory 5 that some antigen, a virus, a bacteria, a 6 vaccine causes autoimmune disease because it 7 looks similar to the body to some human 8 protein? 9 A. Correct. 10 Q. Nothing about molecular mimicry is 11 specific to Gardasil; correct? 12 A. No. 13 Q. Is anything about molecular mimicry 14 specific to Gardasil? 15 A. Well, again, just like with 16 autoimmunity, molecular mimicry concept 17 existed before Gardasil; so in that sense, 18 it is not specific to Gardasil. 19 Q. Is anything about molecular mimicry 20 specific to vaccines? 21 A. Again, not specific to vaccines. 22 Because it was -- again, the concept was 23 mainly developed in context of infections, 24 and then obviously by analogy -- because, 25 again, it relates to sequence homologies</p>
<p style="text-align: right;">Page 75</p> <p>1 function of the autonomic nervous system 2 such as POTS in some susceptible 3 individuals. 4 Did I read that correctly? 5 A. Yes. 6 Q. Is it your opinion to a reasonable 7 degree of scientific certainty that Gardasil 8 causes POTS in some susceptible individuals? 9 A. Yes. 10 Q. Is it your opinion to a reasonable 11 degree of medical certainty that Gardasil 12 causes POI in some susceptible individuals? 13 A. Yes. 14 Q. In your report, you discuss 15 molecular mimicry of one potential mechanism 16 by which Gardasil caused dysautonomia, 17 including POTS, in certain predisposed and 18 vulnerable groups of individuals; is that 19 correct? 20 A. Correct. 21 Q. And the second mechanism you 22 claim -- strike that. 23 And the second mechanism by which 24 you claim Gardasil could cause dysautonomia, 25 including POTS, is a persistent and</p>	<p style="text-align: right;">Page 77</p> <p>1 between microbial antigens and human 2 self-antigens. 3 Since vaccines also contain 4 microbial antigens, it would be expected 5 that vaccine-like infections could cause 6 autoimmunity by molecular mimicry. And 7 again, in certain susceptible individuals, 8 and certainly -- again, a criticism against 9 molecular mimicry is that if it was true, 10 then everyone should be autoimmune 11 because -- or have an autoimmune disease 12 because we have all been exposed to 13 infections. 14 But of course, molecular mimicry in 15 and of itself does not cause immune disease 16 because there are other factors such -- 17 precisely hyperinflammatory response, and 18 that's why most models of molecular mimicry, 19 animal models, use adjuvants in addition to 20 a molecular mimic in order to create a 21 hyperinflammatory response that then creates 22 a fertile field for aberrant immune 23 reactions that can be autoreactive. 24 Q. Doctor, if we go to part 2, 25 question 3 and 4 of your report, I'd like to</p>

20 (Pages 74 - 77)

<p style="text-align: right;">Page 78</p> <p>1 direct your attention to page 14.  2 A. -- part 2, page 14. Yes.  3 Q. You cite, if we look under  4 Section 2.1.4, you note -- you refer to the  5 Trost publication; right?  6 A. I'm sorry. Which one?  7 Q. Are you on page 14?  8 A. Yes.  9 Q. If we look at the paragraph under  10 Section 2.1.4 --  11 A. Right. Oh, Trost, yes.  12 Q. You refer to the Trost publication?  13 A. Uh-huh.  14 Q. And you say that the Trost -- the  15 observation of the Trost publication authors  16 plainly demonstrates that molecular mimicry  17 cannot possibly be the sole causal factor in  18 the pathogenesis of autoimmunity.  19 A. Yeah, that's what I just talked  20 about.  21 Q. Okay. Just to be clear, you agree  22 that molecular mimicry can't possibly be the  23 sole causal factor in the pathogenesis of  24 autoimmunity?  25 A. What I mean in and of itself, and</p>	<p style="text-align: right;">Page 80</p> <p>1 autoimmune reaction.  2 And this is -- this is, again,  3 another piece of the puzzle why we believe  4 that at least in a proportion of  5 Gardasil-vaccinated individual, POTS is  6 autoimmune based on Jesper Mehlsen's finding  7 of HLA typing of those that have  8 dysautonomia following Gardasil vaccination  9 because he found that there is an  10 overrepresentation in these individuals of  11 HLA types that have been previously  12 associated with autoimmune disease.  13 And, again, these individuals ends  14 up harboring those autoantibodies against  15 GPCR receptors. So it's, again, another  16 piece of the puzzle that there is a  17 susceptible group.  18 Q. Okay. So just to break that down a  19 bit, under your theory, molecular mimicry is  20 not enough to induce autoimmune disease;  21 correct?  22 A. Yes. Simple presence of a  23 molecular mimic is not enough to induce  24 because then, again, everyone who would get  25 vaccinated in Gardasil would end up with</p>
<p style="text-align: right;">Page 79</p> <p>1 that's what I talked about before. Just the  2 presence of molecular mimic is not enough.  3 You need to have an adjuvant or something  4 that creates a hyperinflammatory response  5 because, otherwise, again, inflammation is  6 one of the factors that provides a fertile  7 field for autoreactivity for the development  8 of autoimmune reactions.  9 And there's also genetic  10 susceptibility because the way the immune  11 system works is that the antigens are  12 presented by antigen-presenting cells to T  13 cells, and this presentation occurs via  14 human leukocyte antigens. That's only  15 antigen-presenting cells. And so the  16 antigens is bound to -- and the human  17 leukocyte antigen is HLA abbreviated.  18 So the antigen binds to the HLA,  19 and then this is presented to T cells. And  20 there are certain -- epitope are generally  21 recognized by certain HLA molecules. So if  22 you don't have a special HLA molecule that  23 recognized that epitope, then there's no --  24 there won't be any T cell presentation. So,  25 again, you're not going to have an</p>	<p style="text-align: right;">Page 81</p> <p>1 POTS, and that's clearly not the case.  2 Q. Under your mechanism theory, there  3 must be molecular mimicry, susceptibility,  4 and an adjuvant to induce autoimmunity in  5 humans?  6 A. Yes. Autoimmune diseases are  7 multifactorial so, yeah.  8 Q. In order to reach your opinions  9 regarding molecular mimicry, you searched  10 for amino acid peptide sequence matches  11 between Gardasil antigens and autonomic  12 nervous system receptors that you claim are  13 involved in POTS; is that correct?  14 A. Well, I'm not the only person that  15 claims. It's based on research literature  16 that's been produced by experts in  17 dysautonomia who have been studying these  18 autoantibodies in POTS patients for many  19 years.  20 Q. So let me ask it differently. Is  21 it your -- in order to reach your opinions  22 regarding molecular mimicry, you searched  23 for amino acid peptide sequence matches  24 between Gardasil antigens and autonomic  25 nervous system receptors that you understand</p>

21 (Pages 78 - 81)



<p style="text-align: right;">Page 82</p> <p>1 to be involved in POTS?</p> <p>2 A. Correct.</p> <p>3 Q. It is your opinion that there are</p> <p>4 amino acid peptide sequence similarities</p> <p>5 between Gardasil vaccine antigens and the</p> <p>6 extracellular portions of the autonomic</p> <p>7 nervous system receptors involved in POTS?</p> <p>8 A. Correct.</p> <p>9 Q. When we refer to the Gardasil</p> <p>10 vaccine antigens, we're discussing the HPV</p> <p>11 capsid proteins found in Gardasil?</p> <p>12 A. Yes.</p> <p>13 Q. The HPV capsid proteins found in</p> <p>14 Gardasil are also found in wild-type HPV;</p> <p>15 correct?</p> <p>16 A. Correct.</p> <p>17 Q. Can you point me to any study</p> <p>18 anywhere in the world finding that natural</p> <p>19 HPV infection increases the risk of POTS?</p> <p>20 A. No. And I wouldn't expect it to</p> <p>21 because the natural HPV infection or the</p> <p>22 virus -- the HP virus has evolved mechanisms</p> <p>23 by which it escapes the immune system which</p> <p>24 is -- which is why, again, it can persist.</p> <p>25 It doesn't evoke strong immune response as</p>	<p style="text-align: right;">Page 84</p> <p>1 A. No, no.</p> <p>2 Q. Is my -- let me rephrase.</p> <p>3 Are you talking about an overlap of</p> <p>4 the entire protein structure?</p> <p>5 A. No. It's -- yeah, well. . .</p> <p>6 Q. Are you talking about an overlap of</p> <p>7 an entire polypeptide?</p> <p>8 A. Well, again, as I explain in my</p> <p>9 report, based on experimental research,</p> <p>10 experimental research has identified kind of</p> <p>11 the minimum sequence in terms of match and</p> <p>12 length that's capable of producing</p> <p>13 autoimmunity, and that's the research group</p> <p>14 by Steinman, who, again, I consider --</p> <p>15 Q. So I'll reask it. So in your</p> <p>16 report, you are -- strike that.</p> <p>17 Your molecular mimicry mechanism</p> <p>18 theory describes at least five amino acid</p> <p>19 identities in a sequence --</p> <p>20 A. Yes.</p> <p>21 Q. -- of up to --</p> <p>22 A. From 10 to 12, and yes, they do not</p> <p>23 have to be consecutive.</p> <p>24 Q. And those are a fragment of a</p> <p>25 single peptide; right?</p>
<p style="text-align: right;">Page 83</p> <p>1 opposed to vaccination.</p> <p>2 And, again, the natural HP virus</p> <p>3 does not come with an adjuvant. There's a</p> <p>4 huge difference between a natural infection</p> <p>5 and vaccination. Again, we see that by</p> <p>6 Merck's own studies because Gardasil</p> <p>7 injection raises a much higher level of</p> <p>8 antibodies against HPV that persists long</p> <p>9 term compared to natural infection.</p> <p>10 So I absolutely did not expect to</p> <p>11 see any autoimmunity with natural HPV</p> <p>12 infection.</p> <p>13 Q. Can you point me to any study</p> <p>14 anywhere in the world finding that natural</p> <p>15 HPV infection increases the risk of POI?</p> <p>16 A. No, and, again, the same</p> <p>17 explanation. It doesn't -- natural HPV</p> <p>18 infection does not have the capacity to</p> <p>19 provoke an exaggerated immune response that</p> <p>20 persists long term. It just doesn't happen.</p> <p>21 Q. Focusing on your theory of</p> <p>22 molecular mimicry as a plausible mechanism</p> <p>23 for POTS after HPV vaccination, you are not</p> <p>24 talking about an overlap of the entire</p> <p>25 protein structure; correct?</p>	<p style="text-align: right;">Page 85</p> <p>1 A. Yes, yes.</p> <p>2 Q. You reached your conclusion by</p> <p>3 using a mathematical model on your computer</p> <p>4 to compare the amino acid sequences in</p> <p>5 autonomic receptors that you understand to</p> <p>6 be involved in POTS with peptide sequences</p> <p>7 found in HPV601, HPV11L1, HPV16L1, or</p> <p>8 HPV18L1 Gardasil vaccine antigens; right?</p> <p>9 A. Yeah. Well, these are</p> <p>10 bioinformatics programs and sequence</p> <p>11 alignment tools that are routinely used by</p> <p>12 researchers for other purposes. And, again,</p> <p>13 I've extensively used these programs during</p> <p>14 my Ph.D.</p> <p>15 And so it's -- again, it's standard</p> <p>16 operating procedure. There's a variety of</p> <p>17 algorithms in these sequence alignment</p> <p>18 algorithms and, obviously, which one you</p> <p>19 select depends on the purpose of what you're</p> <p>20 trying to do.</p> <p>21 So in my case, I was looking for</p> <p>22 short peptide sequences and, therefore, the</p> <p>23 most appropriate for that purpose was the</p> <p>24 Blosum80 because it will look for short,</p> <p>25 short peptide matches.</p>

<p style="text-align: right;">Page 86</p> <p>1 Q. To test your hypothesis regarding</p> <p>2 molecular mimicry, did you perform any tests</p> <p>3 on a Petri dish?</p> <p>4 A. I would like to but, again, as you</p> <p>5 know, and that goes back to there is -- I</p> <p>6 really would like to. If I would have the</p> <p>7 money, that's what I would like to do.</p> <p>8 Similar to what Steinman has done, you know,</p> <p>9 synthesizing peptides and then well-testing</p> <p>10 them in animals to see if they induce</p> <p>11 autoantibodies that recognize these</p> <p>12 adrenogenic receptors.</p> <p>13 Q. To testify your hypothesis</p> <p>14 regarding molecular mimicry, did you, or did</p> <p>15 you not, perform any tests in a Petri dish?</p> <p>16 A. No, I haven't.</p> <p>17 Q. To test your hypothesis regarding</p> <p>18 molecular mimicry, did you, or did you not,</p> <p>19 perform any tests in an animal model?</p> <p>20 A. No, I haven't.</p> <p>21 Q. To test your hypothesis regarding</p> <p>22 molecular mimicry, did you, or did you not,</p> <p>23 conduct any studies of human outcomes in</p> <p>24 human beings?</p> <p>25 A. Well, that would be unethical.</p>	<p style="text-align: right;">Page 88</p> <p>1 Q. Did you find five identical amino</p> <p>2 acids in a row between Gardasil and the</p> <p>3 human proteins that you understand to be</p> <p>4 involved in POTS? Yes or no?</p> <p>5 A. No. And, again, the research shows</p> <p>6 that they don't have to be consecutive, and</p> <p>7 that's experimentally verified.</p> <p>8 Q. If we go to Table 14 -- so we're in</p> <p>9 part 1, question 2, page 38. I'm thankful</p> <p>10 for these tabs right now.</p> <p>11 A. I am too.</p> <p>12 Q. If you go to page 38, I would like</p> <p>13 to ask you questions about the table you</p> <p>14 have there. Part 1, question 2, page 38 of</p> <p>15 your report includes Table 14.</p> <p>16 Do you see that, Doctor?</p> <p>17 A. Yeah.</p> <p>18 Q. Table 14, you describe a summary of</p> <p>19 Gardasil-antigen peptides that mimic</p> <p>20 receptors implicated in the pathophysiology</p> <p>21 of POTS.</p> <p>22 Do you see that?</p> <p>23 A. Yeah.</p> <p>24 Q. You -- strike that.</p> <p>25 As part of your analysis in this</p>
<p style="text-align: right;">Page 87</p> <p>1 Q. But you have not?</p> <p>2 A. No.</p> <p>3 Q. Now, when you conducted your</p> <p>4 mathematical modeling regarding molecular</p> <p>5 mimicry, did you find an overlap of ten</p> <p>6 amino acids in a row between Gardasil and</p> <p>7 any of the proteins that you understand to</p> <p>8 be involved in POTS?</p> <p>9 A. No, not ten in a row.</p> <p>10 Q. How about nine?</p> <p>11 A. No.</p> <p>12 Q. How about eight?</p> <p>13 A. No.</p> <p>14 Q. How about seven?</p> <p>15 A. No.</p> <p>16 Q. How about six?</p> <p>17 A. I don't think there were any six.</p> <p>18 Q. Did you find five identical --</p> <p>19 A. Actually, there might have been. I</p> <p>20 have to look, but there are not consecutive.</p> <p>21 And, again, because they're based on</p> <p>22 experimental research, as I've documented,</p> <p>23 you don't have to have six or seven or eight</p> <p>24 or nine. It's enough to have five, and they</p> <p>25 don't even have to be consecutive.</p>	<p style="text-align: right;">Page 89</p> <p>1 case, you prepared the amino acid sequence</p> <p>2 of Gardasil-antigen peptides with the</p> <p>3 sodium-dependant norepinephrine transporter</p> <p>4 or NET; correct?</p> <p>5 A. Correct.</p> <p>6 Q. You compare the amino acid sequence</p> <p>7 of Gardasil-antigen peptides with the</p> <p>8 alpha1-adrenoceptors?</p> <p>9 A. Yes.</p> <p>10 Q. You compared the amino acid</p> <p>11 sequence of Gardasil-antigen peptides with</p> <p>12 the alpha2-adrenoceptors?</p> <p>13 A. Correct.</p> <p>14 Q. You compared the amino acid</p> <p>15 sequence of Gardasil-antigen peptide with</p> <p>16 the beta1-adrenoceptors?</p> <p>17 A. Correct.</p> <p>18 Q. You compared the amino sequence of</p> <p>19 Gardasil-antigen peptides with the M1</p> <p>20 muscarenic receptor?</p> <p>21 A. Correct.</p> <p>22 Q. And you also compared it with M2,</p> <p>23 M3, M4, and M5; is that right?</p> <p>24 A. Not M4.</p> <p>25 Q. I'm sorry. Let me reask.</p>

23 (Pages 86 - 89)

<p style="text-align: right;">Page 90</p> <p>1 You -- in reaching your molecular</p> <p>2 mimicry opinions, you compared the amino</p> <p>3 acid sequence of Gardasil-antigen peptides</p> <p>4 with M1, M2, M3, M5 muscarinic receptors.</p> <p>5 A. Correct.</p> <p>6 Q. And you also compared the amino</p> <p>7 acid sequence of Gardasil-antigen peptides</p> <p>8 with AT1R?</p> <p>9 A. Yes, angiotensin receptor.</p> <p>10 Q. You did not -- strike that.</p> <p>11 Did you compare Gardasil with any</p> <p>12 other receptors in your report other than</p> <p>13 those listed here in Table 14?</p> <p>14 A. In my report?</p> <p>15 Q. Correct.</p> <p>16 A. No, only these listed here.</p> <p>17 Q. Did you find 100 percent identical</p> <p>18 overlap between any receptor peptide</p> <p>19 sequences and the sequences of Gardasil</p> <p>20 antigens?</p> <p>21 A. No. And, again, that's irrelevant</p> <p>22 for molecular mimicry because it doesn't</p> <p>23 have to be 100 percent identity.</p> <p>24 Q. Okay. Just to be clear, just yes</p> <p>25 or no. And I understand your explanation.</p>	<p style="text-align: right;">Page 92</p> <p>1 studies is not just in animal models,</p> <p>2 but it's humans following narcolepsy.</p> <p>3 Because here we have strong</p> <p>4 epidemiological evidence that</p> <p>5 Pandemrix was associated with</p> <p>6 narcolepsy. And again, not all brands</p> <p>7 of influenza vaccine. Just Pandemrix.</p> <p>8 And -- and -- so -- so Steinman's</p> <p>9 group was trying to figure out, well,</p> <p>10 what makes Pandemrix different. And</p> <p>11 narcolepsy has also been shown to</p> <p>12 occur in certain individuals who</p> <p>13 are -- obviously who had the influenza</p> <p>14 vaccination -- sorry, influenza</p> <p>15 infection. So it's both the influenza</p> <p>16 vaccination and infection that were</p> <p>17 associated with the development of</p> <p>18 narcolepsy.</p> <p>19 So molecular mimicry was kind of</p> <p>20 an obvious place to look for. They</p> <p>21 did find sequence match between</p> <p>22 influenza nuclear protein and</p> <p>23 hypocretin receptor 2, which has been</p> <p>24 previously involved with the</p> <p>25 pathogenesis of narcolepsy.</p>
<p style="text-align: right;">Page 91</p> <p>1 A. Yes. I'm sorry, no, I didn't.</p> <p>2 ATTORNEY BAUM: Hold it. Hold it.</p> <p>3 You cannot cut her off from her</p> <p>4 answers. Let her complete her answer.</p> <p>5 ATTORNEY JULIEN: I don't believe</p> <p>6 I cut her off. I was actually</p> <p>7 planning to reask the question to get</p> <p>8 a clear response.</p> <p>9 ATTORNEY BAUM: She gave a clear</p> <p>10 response.</p> <p>11 BY ATTORNEY JULIEN:</p> <p>12 Q. Yes or no, did you find 100 percent</p> <p>13 identical overlap between any receptor</p> <p>14 peptide sequences and the sequences of</p> <p>15 Gardasil antigens?</p> <p>16 ATTORNEY BAUM: Objection. Asked</p> <p>17 and answered.</p> <p>18 THE WITNESS: No, I didn't. And I</p> <p>19 repeat, it's irrelevant. It doesn't</p> <p>20 have to be, and that's why I went in</p> <p>21 great length outlining Steinman's</p> <p>22 research that show you do not need to</p> <p>23 have 100 percent or consecutive</p> <p>24 matches.</p> <p>25 One of the really important</p>	<p style="text-align: right;">Page 93</p> <p>1 Again, they found a match. And by</p> <p>2 no means it's a perfect match.</p> <p>3 Actually, if you look at it, it looks</p> <p>4 pretty bad at first sight. It's like</p> <p>5 there is seven amino acid matches out</p> <p>6 of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,</p> <p>7 12. So there's a lot of gaps. It's</p> <p>8 not consecutive.</p> <p>9 Yet, they found these individuals</p> <p>10 that had narcolepsy and vaccinated</p> <p>11 with Pandemrix, they actually had</p> <p>12 antibodies that recognized both the</p> <p>13 hypocretin receptor and the influenza</p> <p>14 nuclear protein.</p> <p>15 So the autoantibodies are</p> <p>16 cross-reactive. So there was -- that</p> <p>17 was pretty good evidence that</p> <p>18 molecular mimicry was involved because</p> <p>19 the immune response that targeted the</p> <p>20 influenza nuclear protein also</p> <p>21 targeted the hypocretin receptor.</p> <p>22 To explain why it only happened</p> <p>23 with Pandemrix, what was -- what they</p> <p>24 found later is that Pandemrix</p> <p>25 contained much higher amount of</p>

<p style="text-align: right;">Page 94</p> <p>1 nuclear protein than other brands of  2 influenza vaccines. This is another  3 thing that I referred to in my expert  4 witness report; so the antigen dose  5 matters as well.  6 Gardasil vaccines do have much  7 higher antigen doses compared to other  8 vaccines that are routinely given to  9 that age group. This builds from his  10 work in animal models where, again, he  11 has pretty conclusively demonstrated  12 that you need only limited sequence  13 similarity. It doesn't have to be  14 consecutive to induce autoimmunities.  15 Done these studies in mice where  16 they had only very short sequence  17 matches, again, not consecutive, and  18 these peptides were able both to  19 stimulate T cells and induce  20 autoimmune encephalitis in mice.  21 So it's not just a theory that we  22 don't need to have 100 percent or  23 consecutive matches. It's  24 experimentally verified.  25 ///</p>	<p style="text-align: right;">Page 96</p> <p>1 countries; right?  2 A. Correct.  3 Q. Can you point me to a single study  4 in humans demonstrating that  5 Gardasil-induced HPV L1 antibodies bind to  6 any of the receptors identified in Table 2,  7 page 38 of your report? I'm sorry,  8 Table 14, page -- let me reask.  9 A. Yeah, yeah, can you reask?  10 Q. Sorry. Can you point me to a  11 single study in humans demonstrating that  12 Gardasil-induced HPV L1 antibodies bind to  13 any of the receptors identified in Table 14  14 of page 38 of your report?  15 A. Yeah, so there is no direct  16 evidence. But from Jesper Mehlsen's  17 research, there is evidence to show that  18 HPV-vaccinated individuals do have -- who  19 have dysautonomia symptoms have a higher  20 level of functional autoantibodies that  21 actually alter the activity of these  22 receptors compared to those patients without  23 symptoms.  24 Q. Can you point me to a single study  25 in humans demonstrating that</p>
<p style="text-align: right;">Page 95</p> <p>1 BY ATTORNEY JULIEN:  2 Q. Doctor, you pointed to Pandemrix  3 as, I guess, an explanation for why you do  4 not actually have 100 percent overlap  5 between Gardasil and any receptor peptide.  6 Now, you know that Pandemrix is a live  7 vaccine; correct?  8 A. Yes.  9 Q. Pandemrix vaccinated against swine  10 flu, not HPV?  11 A. Yes.  12 Q. Pandemrix used AS03 as an adjuvant,  13 not AAHS like Gardasil?  14 A. Correct.  15 Q. And AS03 is not even an aluminum  16 adjuvant. It's an oil and water emulsion;  17 true?  18 A. Correct.  19 Q. And when it came to Pandemrix,  20 there was epidemiological data, I think you  21 said this, demonstrating that when  22 individuals who had and who had not been  23 vaccinated with Pandemrix were compared,  24 there was an increased risk of narcolepsy  25 noted in vaccinated individuals in many</p>	<p style="text-align: right;">Page 97</p> <p>1 Gardasil-induced HPV L1 antibodies activate  2 or inhibit any of the receptors identified  3 in Table 14, page 38 of your report?  4 ATTORNEY BAUM: Objection. Asked  5 and answered.  6 THE WITNESS: Yeah. It's the same  7 Jesper Mehlsen study. Again, he  8 employed a functional assay that  9 showed that those that were vaccinated  10 and have dysautonomia symptoms have a  11 much higher proportion of these  12 autoantibodies than those without  13 symptoms.  14 BY ATTORNEY JULIEN:  15 Q. Are you referring to Mehlsen 2022?  16 A. Yeah, Mehlsen 2022.  17 Q. You know that Dr. Mehlsen did not  18 compare vaccinated individuals with  19 unvaccinated individuals in that study;  20 right?  21 A. Yes, he compared the vaccinated  22 with symptoms and vaccinated without  23 symptoms. And that's fine because, again,  24 that's the big question we are answering,  25 and we are not claiming that Gardasil will</p>

25 (Pages 94 - 97)

<p style="text-align: right;">Page 98</p> <p>1 cause POTS or any other disease in everyone  2 because clearly that's not the case.  3 So there is something that -- there  4 are susceptibility factors -- individual  5 susceptibility risk factors. Again, that's  6 also verified by Mehlsen's research when he  7 found an overrepresentation of certain HLA  8 types that were associated with autoimmunity  9 with those that developed symptoms.  10 Q. A study like Mehlsen 2022 where  11 both groups were vaccinated, that's not  12 going to tell you if there was a difference  13 between vaccinated individuals and  14 unvaccinated individuals; right?  15 A. No, no.  16 Q. Would you agree that your theory of  17 molecular mimicry between the Gardasil  18 antigens and the receptors implicated in the  19 pathophysiology of POTS as described in your  20 report is a hypothesis?  21 A. It's a reasonable hypothesis, yes.  22 Q. Molecular mimicry between Gardasil  23 and the POTS-related receptors identified in  24 your report have not been proven to occur in  25 humans; correct?</p>	<p style="text-align: right;">Page 100</p> <p>1 disease. Do you consider those -- strike  2 that.  3 You consider those with a family  4 history of autoimmune disease to be  5 susceptible to developing autoimmunity  6 post-vaccination?  7 A. Correct.  8 Q. Are there any other groups that you  9 consider susceptible?  10 A. As explained in my witness report,  11 there are certain comorbidities --  12 ATTORNEY BAUM: Hold that thought.  13 I think there needs to be an unmuting  14 that needs to occur.  15 THE VIDEOGRAPHER: That's right.  16 Okay.  17 ATTORNEY JULIEN: I'll reask my  18 question.  19 BY ATTORNEY JULIEN:  20 Q. Other than those with a family  21 history of autoimmune disease and a personal  22 history of autoimmune disease, do you  23 consider any others groups to be susceptible  24 to developing autoimmunity post-vaccination?  25 A. Yes. It could be those that have</p>
<p style="text-align: right;">Page 99</p> <p>1 A. Yes, correct. And it doesn't have  2 to be conclusively established. It's  3 whether there's reasonable evidence that  4 this is likely to occur, and this is just  5 one piece of the puzzle that fits into the  6 picture.  7 ATTORNEY JULIEN: Can we take a  8 five-minute break?  9 ATTORNEY BAUM: Sure.  10 THE VIDEOGRAPHER: We are now  11 going off the record, and the time is  12 11:05 a.m.  13 (Recess taken from 11:05 a.m. to  14 11:19 a.m.)  15 THE VIDEOGRAPHER: We are now  16 going back on the record, and the time  17 is 11:19 a.m.  18 BY ATTORNEY JULIEN:  19 Q. Doctor, you consider those who have  20 a personal history of autoimmune disease to  21 be susceptible to developing autoimmunity  22 post-vaccination?  23 A. It's one group that, yeah.  24 Q. And another group that you consider  25 is those with a family history of autoimmune</p>	<p style="text-align: right;">Page 101</p> <p>1 already experienced adverse -- certain types  2 of adverse events reactions to vaccinations,  3 and then those that are exposed to -- or  4 coexposed to other agents that have  5 immunostimulating properties, and that can  6 be infections and can be mold.  7 Then there are certain types of  8 comorbidities that are more specific to  9 the -- to injuries that are relevant for  10 this case such as Ehlers-Danlos syndrome  11 because it's known that a lot of  12 Ehlers-Danlos syndrome patients develop  13 POTS, but it's not every single one of them.  14 So, again, there has to be some  15 other factor that influences whether someone  16 will develop POTS who has Ehlers-Danlos  17 syndrome. And then also individuals who may  18 be exposed to or who are exposed to agents  19 that alter the permeability of blood-brain  20 barrier because a lot of -- someone can have  21 autoantibodies that target central nervous  22 system antigens, but if these autoantibodies  23 don't reach the brain, there's not going to  24 be an autoimmune reaction resulting in  25 neurological issues.</p>



<p style="text-align: right;">Page 102</p> <p>1 So something has to open the 2 blood-brain barrier, which is, again, why a 3 lot of experimental models of autoimmunity 4 that deal with inducing autoimmunity, a 5 neurological type of autoimmunity, such as 6 autoimmune encephalitis, they use pertussis 7 because pertussis is known to open the 8 blood-brain barrier. 9 So, again, translating this 10 scenario to humans, if someone is exposed to 11 factors that can open the blood-brain 12 barrier, and there could be physical trauma 13 like concussions. It could be exposure to 14 environmental toxins that are known to alter 15 the blood-brain barrier. 16 Including vaccinations, they can 17 potentially act as a blood-brain opener 18 because vaccines, such as those adjuvanted 19 in aluminum, I believe there is reasonable 20 evidence that in some individuals, that can 21 cause blood-brain barrier alterations 22 because aluminum has been shown in animal 23 models to greatly stimulate the microbial 24 cells and the astrocytes which do play a 25 role in controlling blood-brain barrier</p>	<p style="text-align: right;">Page 104</p> <p>1 frequent in certain higher risks of 2 populations; is that correct? 3 A. Correct, correct. I'm sorry to 4 inject. It says your battery is running low 5 on this computer. 6 ATTORNEY JULIEN: Can we go off 7 the record? 8 THE VIDEOGRAPHER: We are now 9 going off the record, and the time is 10 a.m. 11 (Recess taken from 11:25 a.m. to 12 11:26 a.m.) 13 THE VIDEOGRAPHER: We are now 14 going back on the record, and the time 15 is 11:26 a.m. 16 BY ATTORNEY JULIEN: 17 Q. Doctor, you also refer to 18 certain -- actually, strike that. 19 As a researcher, wouldn't you want 20 to see a comparative cohort study that 21 specifically looked at what you consider to 22 be susceptible individuals and compare them 23 with unvaccinated individuals? 24 A. Can you repeat that again? 25 Q. Sure.</p>
<p style="text-align: right;">Page 103</p> <p>1 permeability. 2 So yes, there are a number of those 3 personal factors that can be 4 individual-specific that can predispose 5 certain individuals to react adversely to 6 vaccinations. 7 Q. So I want to break that down a bit. 8 You agree that there are people with 9 Ehlers-Danlos syndrome who developed POTS 10 who have never received Gardasil; correct? 11 A. Yes, yes. 12 Q. And you agree that individuals who 13 have a concussion can develop POTS who have 14 never had Gardasil; right? 15 A. Correct. 16 Q. And when you refer to aluminum 17 impacting the blood-brain barrier, you're 18 referring to all aluminum -- right? -- not 19 the specific aluminum in Gardasil; correct? 20 A. Yes. I'm not saying AHHS does that 21 and other aluminum modulants don't. 22 Q. You believe that a major 23 limitation of epidemiology is that it is 24 unable to detect autoimmune manifestations 25 that are rare in the overall population, but</p>	<p style="text-align: right;">Page 105</p> <p>1 As a researcher, wouldn't you want 2 to see a comparative cohort study that 3 specifically looked at what you consider to 4 be susceptible individuals and compare them 5 with unvaccinated individuals? 6 A. Yeah, I would. 7 Q. You know that there have been 8 studies of individuals with a history of 9 autoimmune disease and those vaccinated 10 with -- strike that. 11 You know there have been studies of 12 individuals vaccinated with Gardasil with a 13 history of autoimmune disease, and those 14 individuals have been compared with 15 individuals who have not been vaccinated; 16 right? 17 ATTORNEY BAUM: Are you referring 18 to a particular paper you'd like to 19 show her? 20 ATTORNEY JULIEN: I am asking the 21 witness questions, and thank you, I 22 don't think that's a form objection. 23 So I'll ask my question again. 24 BY ATTORNEY JULIEN: 25 Q. You are aware there have been</p>

27 (Pages 102 - 105)

<p style="text-align: right;">Page 106</p> <p>1 studies of individuals with a history of  2 autoimmune disease vaccinated with Gardasil  3 compared with individuals who have not been  4 vaccinated with Gardasil; right?  5 A. Correct.  6 Q. And one of those studies is  7 Gronland 2016; correct?  8 A. Yes, correct.  9 Q. And you did not cite Gronland 2016  10 anywhere in your 338-page report; correct?  11 A. No, I haven't.  12 Q. You also did not include Gronland  13 2016 anywhere in your 1,200-plus entry MCL;  14 correct? Materials considered list?  15 A. I haven't.  16 Q. But you did think it was important  17 to bring Gronland 2016 with you today, but  18 you didn't think it was important to include  19 it in your report when you sat down to write  20 it?  21 A. No. That's -- that misrepresents  22 facts because I wasn't specifically tasked  23 to write criticism on every single study  24 that would be used by Merck to disprove our  25 claims. I believe that was the job of</p>	<p style="text-align: right;">Page 108</p> <p>1 Gardasil with a personal history of  2 autoimmune disease?  3 A. Well, again, I was aware of those  4 studies, but as I said, I would have needed  5 another month or couple of weeks, if that  6 would have been my task, to go over each and  7 every one of them and state my objections to  8 them or what I thought were the limitations  9 that do not support the strong conclusions  10 that are being made from these studies.  11 Q. As part of your preparation of the  12 opinions in your report, did you look to see  13 if there were epidemiological studies  14 looking specifically at individuals  15 vaccinated with Gardasil with a family  16 history of autoimmune disease?  17 A. Well, again, the Gronland study.  18 And I -- that particular one I wasn't aware  19 before, but I was aware of other studies,  20 like Hviid and Arnheim Dahlstrom, that I was  21 long aware of.  22 Q. So to clarify, when did you first  23 become aware of Gronland 2016?  24 A. Gronland, probably in the last  25 couple of weeks.</p>
<p style="text-align: right;">Page 107</p> <p>1 Dr. Zizic.  2 I had a lot of things on my own to  3 deal with. I am perfectly able to state my  4 concerns about this study and why I don't  5 believe it supports the conclusions that are  6 being derived from it.  7 Q. Just to be clear, you didn't state  8 you were concerned regarding Gronland 2016  9 or any other comparative study that looked  10 at individuals with a history of  11 pre-existing autoimmune disease and compared  12 those with individuals who had not been  13 vaccinated; right?  14 A. Sorry. Can you restate it? I was  15 not concerned? I didn't quite get that  16 first part.  17 Q. You didn't state your concerns  18 anywhere in your report regarding Gronland  19 2016; correct?  20 A. No, not in my report, I haven't.  21 Q. As a -- as part of your preparation  22 for your opinions in this case, did you  23 actually investigate whether there had been  24 epidemiological studies performed looking  25 specifically at individuals vaccinated with</p>	<p style="text-align: right;">Page 109</p> <p>1 Q. You became aware of Gronland 2016  2 after you served your expert report in this  3 case; correct?  4 A. Yeah, for Gronland, yes, that's the  5 one I haven't seen before.  6 Q. And I also did not see  7 Grimaldi-Bensouda 2014 anywhere in your  8 report or your materials considered list.  9 Did you consider that study in arriving at  10 your opinion?  11 A. Again, I didn't comment on it, but  12 I was aware of it. I already explained the  13 reasons why. I was brought fairly late as  14 an expert witness, and there were --  15 ATTORNEY BAUM: I just want to  16 object to the degree this is starting  17 to walk into communications with  18 counsel, which are protected.  19 ATTORNEY JULIEN: I certainly did  20 not ask her to share communications  21 with counsel. But let me make sure I  22 get a clear answer here.  23 BY ATTORNEY JULIEN:  24 Q. Did you cite Grimaldi-Bensouda 2014  25 anywhere in your report or your materials</p>

28 (Pages 106 - 109)



<p style="text-align: right;">Page 110</p> <p>1 considered list?</p> <p>2 A. No, I haven't cited it, no.</p> <p>3 Q. You were aware of Grimaldi-Bensouda</p> <p>4 before you prepared your report, but you did</p> <p>5 not actually address that study anywhere in</p> <p>6 your report; correct?</p> <p>7 A. No, I haven't, not in my report.</p> <p>8 Q. And you also -- strike that.</p> <p>9 Did you cite Liu, L-i-u, 2018</p> <p>10 anywhere in your report or in your materials</p> <p>11 considered list?</p> <p>12 A. Can you repeat? L-u?</p> <p>13 Q. Did you cite Liu, and it's spelled</p> <p>14 L-i-u, 2018 anywhere in your report or in</p> <p>15 your materials considered list?</p> <p>16 A. No.</p> <p>17 Q. You also did not cite Gronland 2017</p> <p>18 anywhere in your materials list or in your</p> <p>19 report; correct?</p> <p>20 A. Correct.</p> <p>21 Q. Just to be clear, you do not</p> <p>22 mention epidemiological studies looking at</p> <p>23 family history or personal history in</p> <p>24 susceptible individuals in your report;</p> <p>25 correct?</p>	<p style="text-align: right;">Page 112</p> <p>1 history or personal history in susceptible</p> <p>2 individuals; correct?</p> <p>3 A. Correct. And I don't believe those</p> <p>4 studies invalidate the conclusions because</p> <p>5 they have pretty severe limitations that do</p> <p>6 not support the conclusions that are being</p> <p>7 made such as Gronland, that didn't even</p> <p>8 adjust for the use of immunosuppressive</p> <p>9 medications, which is -- and the authors</p> <p>10 acknowledge that.</p> <p>11 That's a huge thing because even in</p> <p>12 Merck's clinical trials, those individuals</p> <p>13 who were taking immunosuppressive therapy</p> <p>14 were excluded, and rightly so, because these</p> <p>15 individuals are not going to have an optimal</p> <p>16 immune response because of the</p> <p>17 immunosuppression.</p> <p>18 If you did not adjust at all for</p> <p>19 the use of immunosuppressive drugs, then</p> <p>20 your results are pretty much meaningless</p> <p>21 because the immunosuppressive agents would</p> <p>22 have an influence on the immuno response.</p> <p>23 That's a big, big flaw in the study.</p> <p>24 As opposed to, for example, one of</p> <p>25 the case reports. I know it's a case report</p>
<p style="text-align: right;">Page 111</p> <p>1 A. No. No, I don't.</p> <p>2 Q. Instead of looking at those</p> <p>3 published peer-reviewed, comparative studies</p> <p>4 in the specific predisposed patients to</p> <p>5 assess whether Gardasil can cause POTS or</p> <p>6 autoimmune disease, you ignored those, and</p> <p>7 you chose to cite case reports and case</p> <p>8 series --</p> <p>9 A. No, I didn't ignore those. Again,</p> <p>10 I was aware of their existence. As I said,</p> <p>11 there is divided work among the experts.</p> <p>12 And if someone else was already going to go</p> <p>13 through all these studies, then I thought,</p> <p>14 well, I'm going to do things that I was told</p> <p>15 to do and focus on, and I wasn't told to</p> <p>16 focus on refuting or offering my critique on</p> <p>17 every single one of these studies.</p> <p>18 Otherwise, I would have done that.</p> <p>19 Q. Just to be clear, you offered the</p> <p>20 opinion in this case that to a reasonable</p> <p>21 degree of scientific certainty, Gardasil is</p> <p>22 a substantial factor in triggering POTS in</p> <p>23 susceptible individuals. But again, you did</p> <p>24 not actually cite or mention any</p> <p>25 epidemiological studies looking at family</p>	<p style="text-align: right;">Page 113</p> <p>1 that I cite, but it involves two patients</p> <p>2 that had -- they were in long-term remission</p> <p>3 from lupus. One was, like, 11 years</p> <p>4 remission; so that patient was not under</p> <p>5 immunosuppressive therapy, got vaccinated</p> <p>6 with Gardasil. She experienced a big lupus</p> <p>7 flare. If that patient had been under</p> <p>8 active immunosuppression, it's very unlikely</p> <p>9 they would have experienced lupus.</p> <p>10 Q. All the criticism of Gronland 2016</p> <p>11 that you just articulated here today, do</p> <p>12 those appear anywhere in your expert report?</p> <p>13 A. No, they don't.</p> <p>14 Q. Now, instead of citing</p> <p>15 epidemiological studies that looked at</p> <p>16 specific predisposed patients to assess</p> <p>17 whether Gardasil can trigger autoimmune</p> <p>18 disease, you instead cited case reports and</p> <p>19 case series; correct?</p> <p>20 A. Correct.</p> <p>21 Q. And a case report describes what</p> <p>22 happens in an individual person?</p> <p>23 A. Correct.</p> <p>24 Q. For example, maybe that person got</p> <p>25 Gardasil and sometime after that was</p>

<p style="text-align: right;">Page 114</p> <p>1 diagnosed with POTS?</p> <p>2 A. Correct.</p> <p>3 Q. A case report has no control group</p> <p>4 of people who did not get the vaccine?</p> <p>5 A. Correct.</p> <p>6 Q. Case reports do not prove</p> <p>7 causation; correct?</p> <p>8 A. Neither do the immunological</p> <p>9 studies. They prove association, not</p> <p>10 causation.</p> <p>11 Q. Do case -- yes or no, do case</p> <p>12 reports prove causation?</p> <p>13 A. No. And, again, neither to</p> <p>14 epidemiological studies in and of</p> <p>15 themselves.</p> <p>16 Q. Case reports are -- cannot --</p> <p>17 strike that.</p> <p>18 A case series describes what</p> <p>19 happens to more than one person?</p> <p>20 A. Correct.</p> <p>21 Q. A case series does not include a</p> <p>22 control group of people who did not get the</p> <p>23 vaccine?</p> <p>24 A. No.</p> <p>25 Q. Case series do not prove causation;</p>	<p style="text-align: right;">Page 116</p> <p>1 pharmacovigilance purposes all that</p> <p>2 well.</p> <p>3 It's outdated because it doesn't</p> <p>4 capture individual susceptibility</p> <p>5 factors, and that in order to assess</p> <p>6 safety of a drug, you really need to</p> <p>7 look at the totality of the evidence,</p> <p>8 and that case reports are not to be</p> <p>9 just dismissed as completely</p> <p>10 irrelevant, all the more so since</p> <p>11 before the advent of big data and</p> <p>12 capacity to analyze big data, case</p> <p>13 reports were the cornerstone of -- or</p> <p>14 very important piece in the whole</p> <p>15 pharmacovigilance process.</p> <p>16 BY ATTORNEY JULIEN:</p> <p>17 Q. Case reports are at the bottom of</p> <p>18 the hierarchy of evidence; right?</p> <p>19 A. Yes.</p> <p>20 Q. And it's your opinion, Doctor, that</p> <p>21 the hierarchy of evidence needs to be</p> <p>22 abandoned in this case?</p> <p>23 A. It needs to be updated. Again,</p> <p>24 it's not just my opinion. This has been</p> <p>25 stated by very highly qualified</p>
<p style="text-align: right;">Page 115</p> <p>1 correct?</p> <p>2 A. Correct.</p> <p>3 Q. We cannot draw conclusions about</p> <p>4 how likely POTS is to happen to someone who</p> <p>5 gets Gardasil versus someone who does not</p> <p>6 get Gardasil based on case reports and case</p> <p>7 series; correct?</p> <p>8 ATTORNEY BAUM: By itself?</p> <p>9 THE WITNESS: Correct, and that's</p> <p>10 what I was going to answer, that case</p> <p>11 reports are just a piece of the</p> <p>12 evidence, a piece of the puzzle.</p> <p>13 And, again, part of the -- well, a</p> <p>14 big part of -- a portion of part 3 of</p> <p>15 my report that cites, again, expert</p> <p>16 pharmacovigilance -- pharmacovigilance</p> <p>17 experts are like Rebecca Chandler,</p> <p>18 like Ralph Ivor Edwards, who was the</p> <p>19 director of the Uppsala Monitoring</p> <p>20 Centre, which is the WHO collaborating</p> <p>21 center. He was a director, and these</p> <p>22 are his words that -- or both him and</p> <p>23 Rebecca Chandler argue for -- their</p> <p>24 thesis is that the current hierarchy</p> <p>25 of evidence doesn't really serve</p>	<p style="text-align: right;">Page 117</p> <p>1 pharmacovigilance experts like Ralph Ivor</p> <p>2 Edwards and Rebecca Chandler, and Chandler</p> <p>3 was an assessor for the EMEA.</p> <p>4 Q. Is your opinion, Doctor -- and I</p> <p>5 recognize your opinion is supported, but I'm</p> <p>6 asking the opinion you're offering this</p> <p>7 litigation --</p> <p>8 A. Yes.</p> <p>9 Q. -- is your opinion that the</p> <p>10 hierarchy of evidence needs to be updated --</p> <p>11 are you --</p> <p>12 ATTORNEY BAUM: I'm getting ready</p> <p>13 to stop her before she hears my</p> <p>14 objection.</p> <p>15 ATTORNEY JULIEN: Okay. I didn't</p> <p>16 know what was happening. Strike that,</p> <p>17 and I'll start a new question.</p> <p>18 BY ATTORNEY JULIEN:</p> <p>19 Q. It's your opinion, Doctor, that the</p> <p>20 hierarchy of evidence needs to be updated in</p> <p>21 this case?</p> <p>22 ATTORNEY BAUM: That's okay.</p> <p>23 THE WITNESS: Okay. Yeah.</p> <p>24 BY ATTORNEY JULIEN:</p> <p>25 Q. You also say in your report: While</p>

<p style="text-align: right;">Page 118</p> <p>1 epidemiology is well-suited to provide  2 evidence of statistical associations, it is  3 not designed to determine causality on an  4 individual level; i.e., epidemiology alone  5 can never answer the question whether a  6 particular vaccine administered to a  7 particular individual caused a particular  8 disease.  9 A. Correct.  10 Q. You cite nothing in support of that  11 sentence?  12 A. Well, that's actually from the  13 publication of Ralph Edwards and Rebecca  14 Chandler. Can you tell me the page?  15 Q. Oh, sure. Let's see here.  16 A. Because I can tell you exactly what  17 publication is that.  18 Q. It's page 34 -- excuse me. 14.  19 A. Yeah. Yes, I do see.  20 Q. Do you cite anything in support of  21 the sentence I just read?  22 A. There is a number of references,  23 and they all -- all the references on  24 page 15 relate to this whole paragraph. So  25 it would be 23, 40, 41, 86, and 139.</p>	<p style="text-align: right;">Page 120</p> <p>1 about the design of Gardasil is related to  2 the virus-like particle VLP structure?  3 A. Correct.  4 Q. One of the opinions that you offer  5 related to the design of Gardasil is the  6 high antigen dose?  7 A. Correct.  8 Q. One of the opinions that you offer  9 related to Gardasil is the presence of  10 strong immunostimulatory and tissue-damaging  11 adjuvants; correct?  12 A. Correct.  13 Q. And another opinion that you offer  14 related to the manufacture -- strike that.  15 An opinion that you offer related  16 to the manufacture of Gardasil is the  17 presence of vaccine manufacturing product  18 residuals with immunostimulatory properties?  19 A. Correct.  20 Q. The FDA -- are you looking at  21 something on your computer?  22 A. It's okay.  23 Q. Okay.  24 A. The article, the Chandler article,  25 because I don't -- I know I have it, but we</p>
<p style="text-align: right;">Page 119</p> <p>1 And this particular sentence:  2 Epidemiology alone can never answer the  3 question whether a particular vaccine  4 administered to a particular individual  5 caused a particular disease. Okay, I'll go  6 to the list of references.  7 Q. Do any of the authors of the  8 articles that you cite in support of the  9 next sentence -- so references 23, 40, 41,  10 86, and 139 -- do any of those authors say  11 that epidemiology alone can never answer the  12 question of causation?  13 A. This is, I believe, from  14 reference 40, Chandler, Edwards, Lindquist  15 comment on safety of human papillomavirus  16 vaccine and updated review drug safety.  17 Q. You believe that Dr. Chandler says  18 those words?  19 A. Yeah.  20 Q. We'll come back to that.  21 You offer a number of opinions  22 regarding the design and manufacture of  23 Gardasil; right?  24 A. Yeah.  25 Q. One of the opinions that you offer</p>	<p style="text-align: right;">Page 121</p> <p>1 can get to that later.  2 Q. Yeah.  3 The FDA approved Gardasil and  4 Gardasil 9 with AAHS as their aluminum  5 adjuvants. You know that; right?  6 A. Correct.  7 Q. The FDA also approved the design of  8 the Gardasil clinical trials that used AAHS  9 as the placebo; right?  10 A. Correct. The FDA did ask Merck to  11 include a placebo -- a proper  12 placebo-control trial that does not contain  13 aluminum, and that's why Merck ended up  14 doing protocol 18.  15 And I know that FDA requested a  16 greater number of individuals. I don't know  17 why Merck didn't end up doing that because  18 protocol 18 was a pretty small study.  19 Q. To clarify, I just want my question  20 answered.  21 Did the FDA approve the design of  22 the Gardasil clinical trials that used AAHS  23 as a placebo? Yes or no?  24 A. Yes, they have.  25 Q. Gardasil wasn't the first vaccine</p>

<p style="text-align: right;">Page 122</p> <p>1 with an aluminum adjuvant?</p> <p>2 A. No, no, it wasn't.</p> <p>3 Q. Gardasil and Gardasil 9 aren't the</p> <p>4 only vaccines with an aluminum adjuvant</p> <p>5 today; correct?</p> <p>6 A. Correct.</p> <p>7 Q. Gardasil and Gardasil 9 aren't even</p> <p>8 the first vaccines to include AAHS; correct?</p> <p>9 A. Correct.</p> <p>10 Q. Aluminum salts, including hydroxide</p> <p>11 and phosphate, are the most commonly used</p> <p>12 vaccine adjuvants and were until recently</p> <p>13 the only adjuvants licensed for use in the</p> <p>14 United States; true?</p> <p>15 A. Correct.</p> <p>16 Q. You're at odds with the CDC when it</p> <p>17 comes to the safety of aluminum adjuvants in</p> <p>18 vaccines?</p> <p>19 A. I and many other experts on -- who</p> <p>20 have worked for a long time, even longer</p> <p>21 than I have, obviously, on aluminum</p> <p>22 adjuvants.</p> <p>23 Q. CDC, to this day, says that</p> <p>24 aluminum adjuvants have been used safely in</p> <p>25 vaccines for decades.</p>	<p style="text-align: right;">Page 124</p> <p>1 the vaccine trials actually use</p> <p>2 aluminum as a placebo.</p> <p>3 So, again, there is no data from</p> <p>4 randomized control trials to</p> <p>5 support -- demonstrating unequivocally</p> <p>6 the safety of the aluminum adjuvant.</p> <p>7 Then there's also lack of</p> <p>8 epidemiological studies supporting</p> <p>9 safety.</p> <p>10 There's been only two reviews, two</p> <p>11 big reviews, according -- well, to my</p> <p>12 knowledge. One was by Jefferson</p> <p>13 looking at the safety of adjuvants in</p> <p>14 vaccines. Basically, they've</p> <p>15 concluded that the evidence was of</p> <p>16 very low quality. There was no</p> <p>17 assessment of long-term outcomes. So,</p> <p>18 again, what conclusions can you draw</p> <p>19 from -- for poor quality evidence?</p> <p>20 Then there was a recent review. I</p> <p>21 cannot remember now whether it's 2022,</p> <p>22 but it's in the last four years</p> <p>23 looking more comprehensively, again,</p> <p>24 at randomized control trials.</p> <p>25 The researchers had to exclude</p>
<p style="text-align: right;">Page 123</p> <p>1 Are you aware of that?</p> <p>2 A. Yes, I am.</p> <p>3 Q. And you disagree with the CDC?</p> <p>4 A. Yes, I totally disagree with the</p> <p>5 CDC.</p> <p>6 Q. The CDC, to this day, says that</p> <p>7 aluminum salts, such as aluminum hydroxide,</p> <p>8 aluminum phosphates, and aluminum potassium</p> <p>9 sulfate, have been used safely in vaccines</p> <p>10 for more than 70 years.</p> <p>11 You're aware of that?</p> <p>12 A. Yes, and I --</p> <p>13 Q. You also disagree with that?</p> <p>14 A. I disagree --</p> <p>15 ATTORNEY BAUM: You're cutting her</p> <p>16 off and preventing her from explaining</p> <p>17 her answer.</p> <p>18 Go ahead and explain.</p> <p>19 THE WITNESS: I disagree because</p> <p>20 it's not based on solid research</p> <p>21 evidence. Going back to the hierarchy</p> <p>22 of evidence, the highest hierarchy --</p> <p>23 the highest of the hierarchy of</p> <p>24 evidence is randomized control trials.</p> <p>25 Placebo-control trials. And most of</p>	<p style="text-align: right;">Page 125</p> <p>1 most larger randomized control trials,</p> <p>2 which is phase 3 studies, precisely</p> <p>3 because most of the big phase 3</p> <p>4 studies use aluminum as a control arm.</p> <p>5 So, again, there's no data from</p> <p>6 randomized control studies. There is</p> <p>7 no -- I shouldn't say zero, but there</p> <p>8 is not much epidemiological data that</p> <p>9 has looked into that, and this has</p> <p>10 been acknowledged even by CDC</p> <p>11 scientists that those studies would be</p> <p>12 feasible, but they haven't been</p> <p>13 conducted thus far.</p> <p>14 So all we are left with is animal</p> <p>15 model studies and -- animal model</p> <p>16 studies and certain theoretical</p> <p>17 modeling studies that actually suggest</p> <p>18 that there is a reason for concern,</p> <p>19 and that the safety of aluminum</p> <p>20 adjuvants is not as firmly established</p> <p>21 as it's claimed by various regulatory</p> <p>22 authorities, including the U.S. CDC.</p> <p>23 ATTORNEY BAUM: Just hold that</p> <p>24 thought. I think there's people in</p> <p>25 the waiting room.</p>

<p style="text-align: right;">Page 126</p> <p>1 BY ATTORNEY JULIEN:</p> <p>2 Q. Just to break down your view,</p> <p>3 Doctor, you believe that there is no data</p> <p>4 from randomized control trials on the safety</p> <p>5 of aluminum?</p> <p>6 ATTORNEY BAUM: Objection.</p> <p>7 Mischaracterizes her testimony.</p> <p>8 THE WITNESS: I'm not saying there</p> <p>9 is zero data, but the data that exists</p> <p>10 is of very poor quality that does not</p> <p>11 allow the firm conclusions that are</p> <p>12 being made.</p> <p>13 BY ATTORNEY JULIEN:</p> <p>14 Q. Doctor, do you believe that there</p> <p>15 is no data from epidemiology on the safety</p> <p>16 of aluminum in vaccines?</p> <p>17 A. And, again, I'm not saying there is</p> <p>18 zero data because I don't claim I'm</p> <p>19 omniscient, but there is no robust data.</p> <p>20 Again, that has been acknowledged by CDC</p> <p>21 scientist Glanz, et al., who again, I have</p> <p>22 the paper, that have said that those</p> <p>23 studies, even though feasible, have not been</p> <p>24 conducted thus far.</p> <p>25 The only vaccine ingredient that</p>	<p style="text-align: right;">Page 128</p> <p>1 specific to Gardasil?</p> <p>2 A. No, no, they were not. I mean,</p> <p>3 there's a number of publications that dealt</p> <p>4 with other aluminum adjuvants. Not -- well,</p> <p>5 we cannot -- Merck's AAHS is a proprietary</p> <p>6 adjuvant; so obviously we couldn't do any</p> <p>7 study specifically on Merck's AAHS.</p> <p>8 (Exhibit Number 11 was marked for</p> <p>9 identification.)</p> <p>10 BY ATTORNEY JULIEN:</p> <p>11 Q. Doctor, I'm handing you what has</p> <p>12 been marked as Exhibit 11 to your</p> <p>13 deposition. This is a publication about the</p> <p>14 toxicity of aluminum generally; right?</p> <p>15 A. Uh-huh.</p> <p>16 Q. We're not talking about vaccines</p> <p>17 specifically in this publication?</p> <p>18 A. Yeah.</p> <p>19 Q. I have marked as Exhibit 11 an</p> <p>20 editorial entitled The Biochemistry/Toxicity</p> <p>21 of Aluminum.</p> <p>22 Do you see that?</p> <p>23 A. Yes.</p> <p>24 Q. And you coauthored this editorial</p> <p>25 with Christopher Shaw?</p>
<p style="text-align: right;">Page 127</p> <p>1 has been studied separately to a greater</p> <p>2 extent is thimerosal, but not aluminum.</p> <p>3 Q. All of the epidemiological studies</p> <p>4 that have looked at Gardasil and found no</p> <p>5 safety concerns, no causation, those all</p> <p>6 include AAHS -- right? -- as part of</p> <p>7 Gardasil?</p> <p>8 A. Yes, correct.</p> <p>9 Q. Doctor, I want to ask you a few</p> <p>10 questions --</p> <p>11 A. And, again, I believe that there --</p> <p>12 and, again, I'm not the only one with that</p> <p>13 opinion that there are certain pretty</p> <p>14 significant limitations to those studies</p> <p>15 that, again, do not allow those conclusions</p> <p>16 to be made.</p> <p>17 Q. And there are also significant</p> <p>18 limitations on case reports and case series</p> <p>19 that you rely on; right?</p> <p>20 A. There is. There are.</p> <p>21 Q. You have previously published about</p> <p>22 aluminum generally before you became a</p> <p>23 retained expert in this case; right?</p> <p>24 A. Right.</p> <p>25 Q. Those publications, were they</p>	<p style="text-align: right;">Page 129</p> <p>1 A. Correct.</p> <p>2 Q. Let's look at what you wrote about</p> <p>3 aluminum generally. You said: We live in</p> <p>4 what one author of this hot topic issue has</p> <p>5 correctly labeled, quote, the age of</p> <p>6 aluminum. Aluminum, the third most abundant</p> <p>7 element in the earth's crust and the most</p> <p>8 abundant metal, is one of the most</p> <p>9 remarkable elements in the periodic table.</p> <p>10 Did I read that part correctly?</p> <p>11 A. Yes.</p> <p>12 Q. Aluminum is the most abundant</p> <p>13 element on earth; right?</p> <p>14 A. The third most abundant.</p> <p>15 Q. Excuse me. No, I thought you said</p> <p>16 the most abundant -- strike that.</p> <p>17 A. The third most abundant in the</p> <p>18 earth's crust.</p> <p>19 Q. So let's break that down. Aluminum</p> <p>20 is the third most abundant element in the</p> <p>21 earth's crust; correct?</p> <p>22 A. Yes.</p> <p>23 Q. And aluminum is the most abundant</p> <p>24 metal on earth; right?</p> <p>25 A. Yeah, that's what the rest of it</p>



<p style="text-align: right;">Page 130</p> <p>1 says, yeah.</p> <p>2 Q. And you go on to the next -- if you</p> <p>3 look at the next paragraph, you say: For</p> <p>4 these reasons, aluminum currently finds its</p> <p>5 way into virtually every aspect of our daily</p> <p>6 lives.</p> <p>7 Did I read that correctly?</p> <p>8 A. Yeah.</p> <p>9 Q. Do you still stand by that</p> <p>10 statement in your 2011 publication?</p> <p>11 A. Oh, yeah.</p> <p>12 Q. I'd like to move on to the next</p> <p>13 sentence, which reads -- or excuse me, let's</p> <p>14 go two sentence down. Aluminum is found in</p> <p>15 drinking water, as a food additive in</p> <p>16 typical western diets, cosmetics,</p> <p>17 pharmaceutical products, and because of its</p> <p>18 ubiquity, it is increasingly found in our</p> <p>19 bodies.</p> <p>20 Did I read that correctly?</p> <p>21 A. Correct.</p> <p>22 Q. Do you still stand by this</p> <p>23 statement in your publication?</p> <p>24 A. Yes, I do.</p> <p>25 Q. I'd like to read the last sentence</p>	<p style="text-align: right;">Page 132</p> <p>1 Q. I'd like to direct your attention</p> <p>2 to page 1588. The header is: Aluminum</p> <p>3 Adjuvants, a Toxicological Risk for a</p> <p>4 Developing Brain.</p> <p>5 A. 1588?</p> <p>6 Q. Yes.</p> <p>7 A. Uh-huh.</p> <p>8 Q. I want to ask you about the third</p> <p>9 sentence in the first paragraph. You</p> <p>10 published the following statement: During</p> <p>11 the last four decades, the number of</p> <p>12 vaccinations required for preschool entry in</p> <p>13 developed countries has significantly</p> <p>14 increased; i.e., from less than 10 in the</p> <p>15 late 1970s to greater than 30 in 2010,</p> <p>16 Tomljenovic and Shaw, 2011B.</p> <p>17 A. Correct.</p> <p>18 Q. And this trend is likely to</p> <p>19 continue as more vaccines are currently</p> <p>20 being approved for use.</p> <p>21 Did I read that correctly?</p> <p>22 A. Yes.</p> <p>23 Q. By the time children get to</p> <p>24 preschool here in the United States, they</p> <p>25 are required to have more than 30</p>
<p style="text-align: right;">Page 131</p> <p>1 of the third paragraph in your publication.</p> <p>2 It says: Instead, evidence clearly shows</p> <p>3 that aluminum is toxic to plants, animals,</p> <p>4 and humans.</p> <p>5 Did I read that correctly?</p> <p>6 A. Yes.</p> <p>7 Q. Do you believe that aluminum is</p> <p>8 toxic to plants, animals, and humans today?</p> <p>9 A. Yes, because there is research</p> <p>10 evidence that shows that's the case.</p> <p>11 (Exhibit Number 12 was marked for</p> <p>12 identification.)</p> <p>13 BY ATTORNEY JULIEN:</p> <p>14 Q. I'm handing you what has been</p> <p>15 marked as Exhibit 12 to your deposition.</p> <p>16 A. Yeah.</p> <p>17 Q. Exhibit 12 is a book chapter</p> <p>18 entitled: Autism Spectrum Disorders and</p> <p>19 Aluminum Vaccine Adjuvants.</p> <p>20 Do you see that?</p> <p>21 A. Yeah.</p> <p>22 Q. And you coauthored this book</p> <p>23 chapter that I've marked as Exhibit 12;</p> <p>24 correct?</p> <p>25 A. Correct.</p>	<p style="text-align: right;">Page 133</p> <p>1 vaccinations under the pediatric vaccine</p> <p>2 schedule.</p> <p>3 A. That's if you include the boosters.</p> <p>4 Q. Then I'd like to direct your</p> <p>5 attention to page 1590. I would like to</p> <p>6 look at the last paragraph on this page with</p> <p>7 you and specifically direct your attention</p> <p>8 to the third sentence that starts: Yet, in</p> <p>9 spite of these observations.</p> <p>10 Do you see that?</p> <p>11 A. Yes. Yes.</p> <p>12 Q. You wrote the following in this</p> <p>13 book chapter: Yet, in spite of these</p> <p>14 observations, infants and children in most</p> <p>15 developed countries routinely receive up to</p> <p>16 18 aluminum-adjuvanted vaccines through</p> <p>17 pediatric vaccination schedules.</p> <p>18 A. Yeah, so that refers just to those</p> <p>19 that were adjuvanted with aluminum whereas</p> <p>20 the previous number referred to all other</p> <p>21 vaccines. Well, aluminum and non-aluminum</p> <p>22 adjuvanted.</p> <p>23 Q. Is your understanding that infants</p> <p>24 and children receive up to 18</p> <p>25 aluminum-adjuvanted vaccines through</p>

<p style="text-align: right;">Page 134</p> <p>1 pediatric vaccination schedules; is that 2 correct? 3 A. And, again, that would be based on 4 the table here. So, again, we refer -- we 5 would include the boosters because it's 6 relevant how many times you are obviously 7 exposed to an aluminum-adjuvanted vaccine 8 injection. 9 Q. And a booster for an 10 aluminum-adjuvanted vaccine obviously 11 includes aluminum adjuvant; right? 12 A. Right. Hepatitis B isn't just 13 given once. It's given several times. 14 Q. So I just want to make sure the 15 answer is clear. Is it your understanding 16 that infants and children receive up to 18 17 aluminum-adjuvanted vaccines through 18 pediatric vaccination schedules in the 19 United States? 20 ATTORNEY BAUM: Objection. Vague. 21 THE WITNESS: Yes, so it would be 22 vaccine injections, not like 18 23 different vaccine brands. 24 BY ATTORNEY JULIEN: 25 Q. I would like to direct your</p>	<p style="text-align: right;">Page 136</p> <p>1 then the two last rows towards the end. 2 Right here would be total bacterial 3 antigens, 90, and total live attenuated 4 viruses, 36. 5 Again, this is by looking through 6 all the manufacturer product sheets for the 7 vaccines and counting basically all the -- 8 all the antigens in a particular vaccine. 9 Q. If you look at page 1602, you 10 say -- I want to direct your attention to 11 the -- it's the same page we were on, the 12 first full paragraph. I want to go about 13 halfway down. 14 Do you see the cite to Theoharides 15 and Zhang? 16 A. Yes, yes. 17 Q. I'd like to read the next sentence. 18 You wrote: Aluminum is known to harm the 19 BBB and can increase its permeability by 20 increasing the rate of transmembrane 21 diffusion and by selectively altering the 22 saturable transport systems. 23 Did I read that correctly? 24 A. Yes. 25 Q. BBB stands for the blood-brain</p>
<p style="text-align: right;">Page 135</p> <p>1 attention to page 1602. 2 A. 1602, yes. 3 Q. I want to read the last sentence at 4 the very top, you know, the paragraph that 5 is running onto 1602. And it starts: 6 Hence, by the time. 7 Do you see that? 8 A. Uh-huh. 9 Q. You wrote: Hence, by the time 10 children are four to six years old, they 11 would have received a total of 126 antigenic 12 compounds under the U.S. vaccination 13 guidelines. 14 Did I read that correctly? 15 A. Correct. There's a reference to 16 Table 3. And, again, that's derived from 17 counting all the antigens in vaccines that 18 are present in vaccines. 19 Q. Is it your understanding that by 20 the time children are four to six years old, 21 they would have received a total of 126 22 antigenic compounds under the U.S. 23 vaccination guidelines? 24 A. Yes. That's from Table 3. If you 25 look at Table 3, which is at page 1589, and</p>	<p style="text-align: right;">Page 137</p> <p>1 barrier? 2 A. Correct. 3 Q. You believe all aluminum harms the 4 blood-brain barrier; true? 5 A. No, not all. Obviously, it depends 6 on the form. It depends whether it's 7 injected or ingested. It depends on the 8 dose. It also does depend on individual 9 susceptibility factors because then everyone 10 would be walking around with a leaky 11 blood-brain barrier. So no, I don't believe 12 every aluminum exposure harms the 13 blood-brain barrier. 14 Q. Let me ask my question a little bit 15 differently. You believe that aluminum 16 generally can harm the blood-brain barrier? 17 A. Yes. 18 ATTORNEY BAUM: Hold on. 19 Objection. Mischaracterizes her 20 testimony. 21 ATTORNEY JULIEN: I would like to 22 mark Exhibit 13. 23 (Exhibit Number 13 was marked for 24 identification.) 25 ///</p>



<p style="text-align: right;">Page 138</p> <p>1 BY ATTORNEY JULIEN:</p> <p>2 Q. I'm handing you what has been</p> <p>3 marked as Exhibit 13 to your deposition.</p> <p>4 A. Yeah.</p> <p>5 Q. This is a publication that you</p> <p>6 authored entitled Aluminum and Alzheimer's</p> <p>7 Disease After a Century of Controversy --</p> <p>8 strike that.</p> <p>9 Exhibit 13 is a publication that</p> <p>10 you authored entitled Aluminum and</p> <p>11 Alzheimer's Disease. After a Century of</p> <p>12 Controversy, Is There a Plausible Link?</p> <p>13 Do you recognize this document?</p> <p>14 A. Yes.</p> <p>15 Q. I would like to direct you to</p> <p>16 Table 3, which is on page 577.</p> <p>17 A. Okay. Yeah.</p> <p>18 Q. You published Table 3 in your 2010</p> <p>19 article in peer-reviewed literature?</p> <p>20 A. Sorry. Can you say it again?</p> <p>21 Q. Table 3 is part of your 2010</p> <p>22 article, which was published in</p> <p>23 peer-reviewed literature?</p> <p>24 A. 2011 article.</p> <p>25 Q. Oh, sorry.</p>	<p style="text-align: right;">Page 140</p> <p>1 to aluminum in food and water in the</p> <p>2 litigation report that you prepared?</p> <p>3 A. Was there a discussion on</p> <p>4 absorption from food or like --</p> <p>5 Q. Did you discuss any of your prior</p> <p>6 publications regarding exposure to aluminum</p> <p>7 in food and water in the expert report that</p> <p>8 you prepared in this litigation?</p> <p>9 A. No, not in the expert report, no.</p> <p>10 Q. How much dietary aluminum is</p> <p>11 absorbed?</p> <p>12 A. About 0.1 percent. And, again, I</p> <p>13 have a reference for that because I don't</p> <p>14 say anything without a reference.</p> <p>15 Q. Okay. So it's your understanding</p> <p>16 that 0.1 percent of dietary aluminum is</p> <p>17 absorbed?</p> <p>18 A. Correct.</p> <p>19 Q. And the title of this article is</p> <p>20 Aluminum and Alzheimer's Disease. After a</p> <p>21 Century of Controversy, Is There a Plausible</p> <p>22 Link?</p> <p>23 A. Correct.</p> <p>24 Q. Of course, for aluminum and food or</p> <p>25 water to have any relevance at all to</p>
<p style="text-align: right;">Page 139</p> <p>1 A. That's this one.</p> <p>2 Q. Apologies.</p> <p>3 A. That's okay.</p> <p>4 Q. Table 3 is part of your 2011</p> <p>5 article, which was published in</p> <p>6 peer-reviewed literature?</p> <p>7 A. Correct.</p> <p>8 Q. Table 3 is entitled Estimates of</p> <p>9 Daily and Weekly Intakes of Aluminum in</p> <p>10 Humans.</p> <p>11 Do you see that?</p> <p>12 A. Correct, yeah.</p> <p>13 Q. According to your table in this</p> <p>14 2011 publication, humans intake one to</p> <p>15 ten milligrams per day of aluminum in</p> <p>16 natural food and seven to seventy milligrams</p> <p>17 per week of aluminum in natural food; is</p> <p>18 that correct?</p> <p>19 A. Correct.</p> <p>20 Q. According to this table in your</p> <p>21 2011 publication -- strike that.</p> <p>22 Aluminum from food and water can be</p> <p>23 absorbed into the body; right?</p> <p>24 A. Correct.</p> <p>25 Q. Was there a discussion of exposure</p>	<p style="text-align: right;">Page 141</p> <p>1 Alzheimer's disease, it would have to be</p> <p>2 absorbed into the gut and travel through the</p> <p>3 blood to the brain?</p> <p>4 A. Correct. Yeah. And part of the --</p> <p>5 well, I cite here research studies. There</p> <p>6 have been other research studies published</p> <p>7 since, and in particular here, I cite the</p> <p>8 work by Judy Walton that showed that she</p> <p>9 used rats who were chronically fed low --</p> <p>10 very low dose of aluminum equivalent to what</p> <p>11 humans ingest in industrial countries</p> <p>12 through food and water.</p> <p>13 Some of these rats developed memory</p> <p>14 impairments, and their brain histology</p> <p>15 showed alterations that are pretty similar</p> <p>16 to those found in Alzheimer's brains. So</p> <p>17 that was to show that even in low-aluminum</p> <p>18 exposure over long periods of time, there</p> <p>19 could be problems.</p> <p>20 Q. Is your understanding -- just to</p> <p>21 break that down and clarify, is your</p> <p>22 understanding based on your review of the</p> <p>23 research that even in low exposures --</p> <p>24 strike that.</p> <p>25 Is it your understanding based on</p>

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1 your review of the research that low  
 2 aluminum exposure over long periods of time  
 3 can create clinical effects?  
 4 A. Correct. And that her work  
 5 inspired other researchers because, again,  
 6 one of the problems that I also personally  
 7 have with all of these animal model  
 8 studies -- partly I understand why it's  
 9 done, but they use unrealistic doses. So  
 10 yeah, if you feed mice truckloads of  
 11 aluminum and they ended up with neurological  
 12 issues, well, so what? How is that relevant  
 13 to me?  
 14 That's why I particularly value  
 15 Judy Walton's work because she did a study  
 16 that was realistic to human exposure, and  
 17 there were several other scientists that did  
 18 the same and also found neurological  
 19 effects.  
 20 Again, this is in animal models.  
 21 Even induction of peripheral neuropathy in  
 22 animals that had been -- and even -- what  
 23 Judy Walton did was over many months. So  
 24 these rats were the equivalent of all the  
 25 people at the end of the experiment, but

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1 these other studies have been done over a  
 2 period of 60 days; so it's not even that  
 3 long. It's not through the entire lifespan.  
 4 Q. If we look -- I want to direct your  
 5 attention back to Table 3 of your 2011  
 6 publication. You wrote that: Humans can be  
 7 exposed to 0.56 to 1.56 milligrams per week  
 8 of aluminum from water alone. Right?  
 9 A. Yes, yeah. I see that, yeah.  
 10 Q. It's also your opinion that there  
 11 is aluminum in tea, pancake mix, cheese,  
 12 tortillas, muffins, baby formula, just to  
 13 name a few?  
 14 A. Coffee, yeah.  
 15 Q. Coffee too?  
 16 If we -- strike that.  
 17 You also published that in  
 18 individuals -- happy to direct you to --  
 19 it's actually on the same page.  
 20 You wrote: Individual intake in  
 21 urban societies can exceed 100 milligrams  
 22 per day.  
 23 A. Where is that?  
 24 Q. I'm looking at the bottom left  
 25 here.

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1 A. I see. I see.  
 2 Q. It says: Although average  
 3 estimates -- do you see where that starts?  
 4 A. Oh, yes, I do.  
 5 Q. You wrote in this 2011 publication:  
 6 Although average estimates of total daily  
 7 intake vary between 2 and 25 milligrams of  
 8 aluminum per day, 14 to 175 milligrams per  
 9 week --  
 10 A. Yes, yes.  
 11 Q. -- individual intake in urban  
 12 societies can easily exceed 100 milligrams  
 13 per day, 700 milligrams per week due to a  
 14 widespread increase in the consumption of  
 15 processed convenience foods, which are  
 16 typically high in aluminum-containing  
 17 additives.  
 18 A. Correct.  
 19 Q. If we go to the other side of the  
 20 same page, I want to ask you about the last  
 21 sentence in the paragraph on the right side.  
 22 It says: The take-home message.  
 23 Do you see that?  
 24 A. That's on the same page, yes?  
 25 Q. Yes. Same page on the right side.

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1 A. Uh-huh.  
 2 Q. You wrote: The take-home message  
 3 is that a large proportion of people are  
 4 unwittingly consuming significantly more  
 5 aluminum than what is considered safe by the  
 6 expert food authorities.  
 7 Did I read that correctly?  
 8 A. Again, I cannot find it, but I  
 9 recall the sentence. The take-home -- oh, I  
 10 see, yeah. I was looking at the last  
 11 paragraph. Yeah, correct.  
 12 Q. I would like to ask you about the  
 13 last paragraph which starts: Of particular  
 14 concern, and I would like to direct your  
 15 attention to about halfway down where it  
 16 says: According to the latest.  
 17 A. Yes, according to, yes.  
 18 Q. You wrote: According to the latest  
 19 vaccination schedule, every child in the USA  
 20 will receive a total of five to  
 21 six milligrams of aluminum by the age of two  
 22 years, or up to 1.475 milligrams of aluminum  
 23 during a single visit to the pediatrician.  
 24 Did I read that correctly?  
 25 A. Yes.

<p style="text-align: right;">Page 146</p> <p>1 Q. Each dose of Gardasil contains  2 225 micrograms of aluminum; correct?  3 A. Correct.  4 Q. Each dose of Gardasil 9 contains  5 500 micrograms of aluminum?  6 A. Correct.  7 Q. A microgram is 1,000th of a  8 milligram; correct?  9 A. Correct.  10 Q. 225 micrograms is 0.225 milligrams?  11 A. Correct.  12 Q. 500 micrograms is 0.5 milligrams?  13 A. Correct.  14 Q. One dose of Gardasil or Gardasil 9  15 is less than one week's intake of aluminum  16 in drinking water, according to your table?  17 A. Correct. But that's injectable  18 aluminum as opposed to the ones that is  19 ingested, and there's a huge difference in  20 absorption because pretty much everything  21 that is injected is -- obviously gets into  22 the body.  23 And the pharmacokinetics of  24 injected aluminum is vastly different than  25 ingested aluminum because most of the</p>	<p style="text-align: right;">Page 148</p> <p>1 really aluminum hydroxyphosphate.  2 And what they found is that only  3 after 28 days -- that's the length of what  4 they monitored -- only 6 percent of the  5 injected hydroxide was excreted via the  6 urine and 22 of the phosphate. So it means  7 that 78 percent of the phosphate and  8 94 percent of the hydroxide was retained.  9 So, again, that study does not  10 support rapid elimination of aluminum  11 adjuvants.  12 Again, it was in very limited.  13 It's very surprising why it wasn't followed  14 up by a larger study, including more  15 animals, but the research that has been  16 conducted by our colleagues from France and  17 also from Spain, both in mice and sheep,  18 shows that aluminum -- injected aluminum is  19 not rapidly excreted, and it's got different  20 pharmacokinetics.  21 The one that's normally absorbed  22 ends up in the systemic circulation in the  23 plasma. That's not the case with the  24 adjuvant aluminum, that after injection gets  25 taken out by the macrophages, and then</p>
<p style="text-align: right;">Page 147</p> <p>1 ingested aluminum is secreted via the  2 kidneys, so in the urine.  3 Whereas that's not the case with  4 injected aluminum, and that's, again, the  5 great paradox that pharmacokinetics studies  6 are not required for vaccines. They're not  7 required for vaccine adjuvants. And it's  8 being claimed, again, by Merck and other  9 scientists that injected aluminum does  10 not -- does not -- is not a toxicological  11 risk because it's rapidly excreted.  12 Again, if it was rapidly excreted,  13 it would be a pretty lousy adjuvant. But  14 the experimental data that does exist does  15 not support at all that it's rapidly  16 excreted.  17 In fact, one of the studies that  18 Merck appeals to frequently to support that  19 claim is studying rabbits by Flarend, et al.  20 It was published in 1997. And the  21 researchers used a total of four rabbits,  22 and two of them were injected by aluminum --  23 with aluminum hydroxide, or more accurately,  24 oxyhydroxide, and two were injected with  25 aluminum phosphate, which is chemically</p>	<p style="text-align: right;">Page 149</p> <p>1 macrophages take it up to the lymph nodes.  2 And from the lymph nodes, it actually  3 disseminates to other organs, including the  4 spleen and the brain where it can persist up  5 to six months following injection.  6 Even the original Flarend study  7 shows wide distribution of injected aluminum  8 in various organs. Again, it's transported.  9 The problem of aluminum staying in the brain  10 for six months or more is that, again, it's  11 a neurotoxin. It's a prooxidant. It's a  12 proinflammatory, and having such a component  13 in the brain is not a good thing.  14 Most of the neurodegenerative  15 diseases have a component of  16 neuroinflammation -- and particularly  17 neuroinflammation. Another problem with  18 having aluminum in the brain is it's  19 virtually impossible to get it out of the  20 brain.  21 Q. Doctor, do you recall the question  22 that I asked you?  23 A. Yeah, you asked -- you stated that  24 the dosing of aluminum in Gardasil was  25 basically much lower than the weekly intake.</p>

<p style="text-align: right;">Page 150</p> <p>1 And, again, that's another argument that's  2 frequently used, and it's completely  3 scientifically flawed in that while you  4 ingest more aluminum from food than you get  5 from vaccines.  6 But, again, that's why all this  7 long story, to show that you cannot -- you  8 cannot make extrapolation from ingested  9 aluminum to injected aluminum because they  10 behave very differently.  11 Q. I want to direct your attention to  12 page 578 of the same publication. Earlier,  13 did you testify that point -- excuse me, did  14 you testify that 0.1 percent of dietary  15 aluminum is absorbed?  16 A. Around 0.1.  17 Q. Let's take a look at what you wrote  18 in 2011. If we look at page 578, you  19 said -- let's look at the first -- actually,  20 the second full sentence. You say: What  21 they fail to stress. Do you see that? 578  22 on the right side, second full sentence.  23 A. Okay.  24 Q. You wrote: What they fail to  25 stress is that unlike dietary aluminum, of</p>	<p style="text-align: right;">Page 152</p> <p>1 .25 percent of -- is absorbed into someone's  2 blood, a person can easily be exposed to  3 multiple times more aluminum in a week from  4 just being alive on the planet than they  5 would be from Gardasil 9; right?  6 A. Yeah. And again, that's irrelevant  7 because you cannot compare. It's comparing  8 apples and oranges because of everything  9 that I've just explained. It's a totally  10 different ball game with injected aluminum.  11 That does not behave the same as injected  12 aluminum and don't get rid of that,  13 obviously.  14 Q. And just to walk through the math,  15 you published in 2011 that individuals in  16 urban settings can be exposed to up to  17 100 milligrams of aluminum per day. Then I  18 multiplied that by .0025, so .25 percent  19 times 7. That's 1.75 milligrams of aluminum  20 in a single day; right?  21 A. Right.  22 Q. And also if we look at the number  23 that you say today, you say that it's .001  24 today, .1 percent?  25 A. No, I didn't say --</p>
<p style="text-align: right;">Page 151</p> <p>1 which only about .25 percent is absorbed  2 into systemic circulation, aluminum from  3 vaccines is absorbed in nearly 100 percent.  4 Did I read that correctly?  5 A. I cannot find it but, yeah.  6 Q. It's the second full sentence on  7 the right side of page 578.  8 A. Again, I'm looking at the wrong  9 side. What they fail info stress, yeah,  10 0.25.  11 Q. So you previously published that  12 0.25 percent of dietary aluminum is absorbed  13 into systemic circulation; correct?  14 A. Yeah. I've recently -- again,  15 that's an estimate and these can change and  16 I like to always -- I look to be up-to-date  17 with the literature. So not long ago, I  18 reviewed -- well, I read a major review on  19 aluminum toxicology.  20 And from my memory, they state --  21 and these are expert toxicologists -- that  22 it's 0.1. Again, I can check that because I  23 know the publication where it comes from.  24 Q. Let's assume the number in your  25 2011 publication is correct. Even if</p>	<p style="text-align: right;">Page 153</p> <p>1 Q. Oh.  2 A. And, again, research gets updated.  3 It's not like it's an order of magnitude  4 difference. It's still the ballpark.  5 Q. Now, food and aluminum -- strike  6 that.  7 Food is eaten on a daily basis, of  8 course.  9 A. Correct.  10 Q. And aluminum that's in cheese or  11 coffee or tea or all the other things you  12 list, an individual could be exposed to that  13 every day, every week, every month?  14 A. Correct.  15 Q. And you said in urban -- I want to  16 do the calculation here with your -- the  17 urban setting. So just to refresh everyone,  18 you published in 2011 that a person in an  19 urban setting can easily be exposed to  20 100 milligrams of aluminum per day; right?  21 A. Yeah.  22 Q. And then if we multiplied that by  23 .1 percent absorption, that individual would  24 be exposed to .1 milligrams of aluminum  25 every day just by living in an urban</p>

<p style="text-align: right;">Page 154</p> <p>1 setting; right?</p> <p>2 A. Correct.</p> <p>3 Q. If we multiply that by seven to get</p> <p>4 a week, an individual in an urban setting</p> <p>5 would be exposed to .7 milligrams of</p> <p>6 aluminum just by living in an urban setting;</p> <p>7 right?</p> <p>8 A. Correct.</p> <p>9 Q. And you agree that .7 milligrams of</p> <p>10 aluminum per week, simply by living in an</p> <p>11 urban setting, is less than the aluminum</p> <p>12 adjuvant in Gardasil and Gardasil 9 in one</p> <p>13 dose?</p> <p>14 A. It is, but it's, again, completely</p> <p>15 irrelevant to the arguments I have with</p> <p>16 respect to the exposure of the -- exposure</p> <p>17 to the aluminum adjuvant in Gardasil.</p> <p>18 Q. And apologies. I misspoke there.</p> <p>19 You agree that .7 milligrams of aluminum per</p> <p>20 week simply by living in an urban setting is</p> <p>21 more than the aluminum adjuvant exposure in</p> <p>22 Gardasil and Gardasil 9?</p> <p>23 A. Yeah, yeah.</p> <p>24 Q. I know we're getting close to</p> <p>25 lunchtime.</p>	<p style="text-align: right;">Page 156</p> <p>1 attention to page 584 of the same</p> <p>2 publication.</p> <p>3 A. 584, yes.</p> <p>4 Q. And I would like to direct your</p> <p>5 attention to the paragraph just above brain</p> <p>6 compartmentalization.</p> <p>7 A. Yeah.</p> <p>8 Q. I want to look specifically at the</p> <p>9 second-to-last sentence.</p> <p>10 Do you see that it starts: Because</p> <p>11 of its high neurotoxic potential?</p> <p>12 A. Yes, I do.</p> <p>13 Q. You wrote in this 2011 publication:</p> <p>14 Because of its high neurotoxic potential,</p> <p>15 the factor that is of particular relevance</p> <p>16 in regards to the risk for Alzheimer's</p> <p>17 disease, AD, is that small amounts of</p> <p>18 aluminum can access the brain continually to</p> <p>19 a point at which neurotoxicity occurs. As</p> <p>20 documented Tables 3 through 5, this</p> <p>21 criterion is satisfied through dietary</p> <p>22 aluminum intake.</p> <p>23 Did I read that correctly?</p> <p>24 A. Yeah.</p> <p>25 Q. You believe that ingested aluminum</p>
<p style="text-align: right;">Page 155</p> <p>1 A. You said it, but I know that it's</p> <p>2 more. I know that it's more.</p> <p>3 Q. In your various publications, you</p> <p>4 have linked aluminum to Alzheimer's disease</p> <p>5 and autism; right?</p> <p>6 A. Linked as a plausible cause. I'm</p> <p>7 not saying it's definite because even the --</p> <p>8 something that we've been criticized in our</p> <p>9 2011 publication in the journal of -- in</p> <p>10 organic biochemistry is kind of -- well, it</p> <p>11 was stated well, this does not prove that</p> <p>12 aluminum causes autism. We never stated</p> <p>13 that. We said it's a plausible hypothesis</p> <p>14 that requires further investigation. And we</p> <p>15 elaborated why we believe it's a plausible</p> <p>16 hypothesis.</p> <p>17 Q. You believe that aluminum is a</p> <p>18 plausible cause of autism?</p> <p>19 A. It's a plausible suspect cause.</p> <p>20 Again, I believe there has to be further</p> <p>21 research on it.</p> <p>22 Q. You believe that aluminum is a</p> <p>23 plausible cause of Alzheimer's disease?</p> <p>24 A. Yes, I do.</p> <p>25 Q. I would like to direct your</p>	<p style="text-align: right;">Page 157</p> <p>1 itself can cause clinical harm?</p> <p>2 A. Yeah, that's what I explain when I</p> <p>3 describe briefly the studies by Judy Walton.</p> <p>4 Q. One more document to show you, and</p> <p>5 then we can take a lunch break.</p> <p>6 Can ingested aluminum cause</p> <p>7 autoimmune disease? Sorry. Let me ask</p> <p>8 thoroughly: Can ingested aluminum cause</p> <p>9 autoimmune disease?</p> <p>10 A. Ingested aluminum, whether it can</p> <p>11 cause autoimmune disease? Well, from the</p> <p>12 top of my head, I remember a paper, and it</p> <p>13 was by an Israeli author, on aluminum --</p> <p>14 ingested aluminum as a possible factor in --</p> <p>15 I cannot remember now if it's Crohn's or</p> <p>16 celiac, but one of the GI disorders. But I</p> <p>17 haven't looked -- I haven't focused much my</p> <p>18 research on ingested aluminum being a cause</p> <p>19 of autoimmune disease. Not of late because</p> <p>20 I've been -- I've shifted my focus to</p> <p>21 vaccines.</p> <p>22 Q. Did you consider data or</p> <p>23 publications regarding whether ingested</p> <p>24 aluminum can cause autoimmune disease in</p> <p>25 reaching your opinions in this case?</p>

40 (Pages 154 - 157)



<p style="text-align: right;">Page 158</p> <p>1 A. No, not in this case. Again, I 2 cannot recall if I did before. 3 Q. I'm handing you what has been 4 marked as Exhibit 14 to your deposition. 5 A. But, yeah, definitely not in this 6 case. 7 Q. Is Exhibit -- strike that. 8 Exhibit 14 is a review article 9 entitled Aluminum Induced Entropy in 10 Biological Systems, Implications For 11 Neurological Disease. 12 (Exhibit Number 14 was marked for 13 identification.) 14 BY ATTORNEY JULIEN: 15 Q. Do you see that? 16 A. Yes. 17 Q. And you are one of the co-authors 18 of this publication? 19 A. Yeah. 20 Q. You wrote this paper with your 21 colleague Dr. Shaw? 22 A. Well, and all the others that are 23 listed as authors like one, two, three, 24 four, five of them. 25 Q. Okay. I would like to direct your</p>	<p style="text-align: right;">Page 160</p> <p>1 of aluminum that he or she may encounter in 2 her life or his life? 3 A. Well, one could do a mass spec to 4 be able to distinguish, but that's not 5 something that would be routinely done. 6 Q. Did you do a mass spec to make any 7 determinations like that in reaching your 8 opinions in this case? 9 A. No. 10 Q. And your understanding is that a 11 mass spec test can distinguish aluminum in 12 someone's body from Gardasil versus the 13 aluminum from coffee, tea, cheese, 14 tortillas? 15 A. Yeah, because AAHS is not found in 16 coffee, cheese, and tortillas. 17 Q. But I'm just trying to understand. 18 You're saying that you can find AAHS 19 specifically in someone's body after they've 20 been vaccinated with Gardasil? Is that your 21 opinion? 22 A. You could. 23 Q. Did you perform any tests like that 24 before reaching -- 25 A. No.</p>
<p style="text-align: right;">Page 159</p> <p>1 attention to page 19 of this publication. 2 A. Okay. Yeah. 3 Q. And I want to look at the 4 paragraph on the left side of the page. I 5 want to look at the fourth sentence that 6 starts: Of course. Of course, the dose 7 response. 8 Do you see that? 9 A. Yes, yes. 10 Q. In this 2014 publication, you 11 wrote: Of course, the dose response of 12 aluminum and its compounds must be 13 considered, but even at low doses, 14 especially with repeated exposures, aluminum 15 can have cumulative deleterious effects that 16 can be extreme and even fatal. For that 17 reason, a repeated low-dose exposure may 18 prove more damaging than a single larger 19 dose. 20 Did I read that correctly? 21 A. Yes. 22 Q. Under your theory of this case, is 23 there an objective test to distinguish 24 aluminum from Gardasil in an individual's 25 body from all the other cumulative sources</p>	<p style="text-align: right;">Page 161</p> <p>1 Q. -- your opinions in this case? 2 A. No. 3 Q. Are you aware of any such study 4 where someone tried to distinguish the 5 aluminum in Gardasil in someone's body from 6 the cumulative sources that that person 7 encountered throughout their life? 8 A. Not to my knowledge, no. I don't 9 believe anyone has done that. 10 ATTORNEY JULIEN: Okay. We can 11 take a lunch break now. Thank you. 12 THE VIDEOGRAPHER: We are now 13 going off the record, and the time is 14 12:32 p.m. 15 (Recess taken from 12:32 p.m. to 16 1:45 p.m.) 17 THE VIDEOGRAPHER: We are now 18 going back on the record, and the time 19 is 1:45 p.m. 20 BY ATTORNEY JULIEN: 21 Q. Dr. Tomljenovic, we just took a 22 break for lunch. 23 Are you okay to proceed? 24 A. Yes. 25 Q. When the FDA approved Gardasil and</p>

<p style="text-align: right;">Page 162</p> <p>1 Gardasil 9, it approved its VLP-based 2 structure as well; right? 3 A. Yes. 4 Q. When the FDA approved Gardasil, it 5 approved the 120 micrograms of VLPs present 6 in Gardasil? 7 A. Correct. 8 ATTORNEY BAUM: I just want to 9 object. You may be asking her for 10 regulatory opinions that are outside 11 the scope of her opinions. 12 BY ATTORNEY JULIEN: 13 Q. When the FDA approved Gardasil 9, 14 it approved the 270 micrograms of VLPs 15 present in Gardasil 9; right? 16 A. Correct. But the FDA has approved 17 many drugs that have been subsequently 18 recalled for safety issues, so . . . 19 Q. Gardasil is still FDA approved to 20 this day; right? 21 A. Yes, it is. 22 Q. Are you aware of a single country 23 in the world where Gardasil has been 24 withdrawn? 25 A. No.</p>	<p style="text-align: right;">Page 164</p> <p>1 marked as Exhibit 15 to your deposition. 2 And it is the FDA's statement entitled FDA 3 Information on Gardasil Presence of DNA 4 Fragments Expected, No Safety Risk. 5 Do you see that? 6 A. Correct. I do see that. 7 Q. Did you refer to or cite this FDA 8 statement anywhere in your report or your 9 MCL? 10 A. I haven't cited this document, no. 11 Q. I would like to direct you to the 12 Key Facts section of this document. 13 Do you see that? 14 A. Right. 15 Q. The first bullet point reads -- 16 strike that. 17 The first bullet point of the FDA 18 statement reads: Gardasil does contain 19 recombinant HPV L1 specific DNA fragments, 20 but these are not contaminants. 21 Did I read that correctly? 22 A. Yes. 23 Q. And if we move to the third bullet 24 point, the FDA states: Since the early 25 development of Gardasil, FDA and the</p>
<p style="text-align: right;">Page 163</p> <p>1 Q. Same for Gardasil 9? 2 A. Yeah. 3 Q. You wrote in your 2024 expert 4 report that the clinical significance of HPV 5 L1 DNA fragments in Gardasil cannot be 6 definitively ascertained at present; 7 correct? 8 A. Yeah, it cannot be definitively 9 asserted. It doesn't mean that there is no 10 reasonable hypothesis why it would not 11 have -- or reasonable -- reasonable evidence 12 to suggest that it might have or that it 13 probably has a clinical effect. 14 Q. And just to clarify, you wrote in 15 September of 2024 in your expert report: 16 The clinical significance of HPV L1 DNA 17 fragments in Gardasil cannot be definitively 18 ascertained at present. 19 A. Correct. 20 ATTORNEY JULIEN: I'd like to mark 21 as 15. 22 (Exhibit Number 15 was marked for 23 identification.) 24 BY ATTORNEY JULIEN: 25 Q. Doctor, I'm handing you what's been</p>	<p style="text-align: right;">Page 165</p> <p>1 manufacturer Merck &amp; Co., Inc., have known 2 that after purification of the vaccine, 3 small quantities of residual recombinant HPV 4 L1 specific DNA fragments remain in the 5 vaccine. 6 Did I read that correctly? 7 A. Yes. 8 Q. I'd like to go back to the first 9 bullet point, the third sentence. It 10 reads -- the FDA statement reads: The 11 presence of these DNA fragments is expected, 12 is not a risk to vaccine recipients and is 13 not a safety factor. 14 Did I read that correctly? 15 A. Yes. 16 Q. And you disagree with the FDA; 17 right? 18 A. Yes, I do disagree with the FDA. 19 Q. Can you point me -- go ahead. 20 A. Yeah, especially, again, what 21 they're saying here is a speculation. For 22 example, in the third bullet point when they 23 say: Since the early development of 24 Gardasil, FDA and the manufacturer Merck 25 have known that after purification of the</p>

42 (Pages 162 - 165)

<p style="text-align: right;">Page 166</p> <p>1 vaccine, small quantity of residual 2 recombinant HPV-specific remain. 3 Well, okay, so they stated small 4 quantities. But the fact is that Merck 5 never specifically quantified the actual HPV 6 DNA. They made an estimate based on yeast 7 DNA, and Swissmedic had an issue with that 8 and even pointed the flaw in the 9 methodology. And the -- I've cited 10 documents that relate to that in part 2 of 11 my report. 12 And one of the suggestion at one 13 point by some of the Merck people was that, 14 well, maybe we should just -- okay. And 15 Swissmedic was actually recommending a 16 specific protocol to Merck that would 17 estimate the actual HPV DNA. 18 And Merck was -- apparently tried 19 to circumvent that, and there was the 20 suggestion, well, let's just point 21 Swissmedic to the FDA, and then they decided 22 against this because they didn't want to 23 raise issues at the FDA level. So it 24 appears they didn't want the FDA to be aware 25 of the concern the Swissmedic raised</p>	<p style="text-align: right;">Page 168</p> <p>1 offering your personal view -- 2 A. Yeah. 3 Q. -- of what employees of Merck 4 thought, felt, or believed about DNA 5 fragments. 6 A. Yeah, for sure. Again, it's 7 pretty -- okay. I'm at the right place. 8 It's pretty black and white. So this is -- 9 yeah, so that's on page 24 of part 2. This 10 is the Swissmedic email. So the Swissmedic 11 representative states that the PCR method 12 employed for measuring the amount of 13 residual DNA in Gardasil or in intermediates 14 of the vaccine is, in fact, not entirely fit 15 for purpose in that it is specific for 16 chromosomal marker of yeast of the PRP1 17 gene, and it would not detect residual 18 plasmid DNA. 19 Again, this is Swissmedic saying 20 the method Merck used would not detect 21 residual plasmid DNA. As multicopy plasmids 22 are used as the expression construct, 23 plasmid DNA may represent a substantial 24 proportion of total whole DNA present in the 25 purification process.</p>
<p style="text-align: right;">Page 167</p> <p>1 concerning their method of estimating the 2 HPV DNA. 3 Q. So to reach the conclusion that you 4 just offered about what was thought and what 5 folks at Merck did or did not want to pass 6 along, you reached that conclusion by 7 reading emails; right? 8 A. Well, the Merck's documents that 9 are -- 10 Q. Yes, Merck documents, Merck emails. 11 You read those emails? 12 A. Yeah. 13 Q. And then you offered your personal 14 interpretation of what was happening? 15 A. Yes, yes. 16 Q. Okay. 17 A. And again -- 18 Q. Go ahead. 19 A. Again, those are the things that I 20 will not try to spell out from the top of my 21 head. It's part 2 of my report. 22 Q. I just want to understand the 23 methodology you used -- 24 A. Yeah. 25 Q. -- involved in reading emails and</p>	<p style="text-align: right;">Page 169</p> <p>1 Further, there is an (albeit low) 2 chance plasmid DNA might get entrapped into 3 the VLPs and thereby become protected from 4 nuclease digestion. Thus, the DNA 5 purification profiles you have sent us with 6 your email dated September 19, 2011, may not 7 be a of the total DNA pool of yeast and 8 should be confirmed by a different 9 analytical methodology. More specifically, 10 the residual amounts of HPV sequences in the 11 product should be quantified. To my 12 knowledge, Merck never did that. 13 Q. Do you know whether Swissmedic 14 agreed that no other tests needed to be done 15 for DNA fragments? Did you look into that? 16 A. I haven't. I haven't examined all 17 the documents related -- 18 Q. So you don't -- I'm sorry to 19 interrupt. 20 A. Yeah. 21 Q. So you don't know how this 22 discussion with Swissmedic actually ended? 23 You just read a clip without the full 24 context; is that right? 25 A. It's not without the full context.</p>

<p style="text-align: right;">Page 170</p> <p>1 Again, they had concerns, and Merck never  2 ended up doing this proposed method, whether  3 Swissmedic -- again, they had no power to  4 enforce Merck to do it.  5 And so, again, the fact is if you  6 want to state that the amount of DNA is  7 small, what are you basing that on? Again,  8 estimation of yeast DNA? Well, that's an  9 estimation. You do not know how much HPV  10 DNA is in the product because you never  11 actually measured that.  12 Q. Just to break that down, do you  13 know one way or the other whether Swissmedic  14 agreed that no other test needed to be done  15 for DNA fragments?  16 A. I don't know that.  17 Q. Okay. And you understand that  18 Swissmedic is the national authorization and  19 supervisory authority for drugs and medical  20 products in what? Is that Switzerland?  21 A. Yeah, Switzerland.  22 Q. Okay. Can you point me to a single  23 peer-reviewed publication that has concluded  24 that DNA fragments in Gardasil cause  25 autoimmune disease in humans?</p>	<p style="text-align: right;">Page 172</p> <p>1 viral and microbial DNA act as a PLR9  2 agonist, and, of course, we know vaccine  3 manufacturers sometimes include them on  4 purpose, DNA, to enhance the immunogenicity  5 of the vaccine.  6 So there is no doubt it is  7 immunogenic. Therefore, if it is present in  8 a vaccine, it could enhance that vaccine's  9 immune response. But I believe that the  10 vaccine would still be -- it would still be  11 immunogenic without DNA, but the DNA -- the  12 DNA adds to the immunogenic response of the  13 vaccine. Likely as to it.  14 Q. Is it your opinion that DNA  15 fragments in Gardasil -- strike that.  16 Are you able to point to any  17 peer-reviewed study that has found that DNA  18 fragments in Gardasil causes clinical harm?  19 A. Not conclusively. But again, if  20 the DNA fragments have been found  21 corresponding to HPV DNA, and this has been  22 sequenced in a patient six months following  23 injections, that shows that DNA is not  24 degraded. It's sticking around. Given  25 that, it is probable that it is</p>
<p style="text-align: right;">Page 171</p> <p>1 A. There is no peer-reviewed  2 publication that conclusively proves it.  3 Q. Can you point me to a single  4 peer-reviewed publication that has concluded  5 that DNA fragment in Gardasil cause POTS?  6 A. There is no publication that DNA  7 fragments cause POTS, but we never claimed  8 the DNA fragments cause POTS. Neither have  9 we ever claimed that aluminum adjuvants  10 alone causes POTS. It's the whole mix.  11 It's the vaccine as a whole that's got the  12 VLPs that contain molecular mimics and that  13 it's got the adjuvants that by Merck's own  14 studies has greater immunostimulating  15 capacity than other adjuvants.  16 So, again, Gardasil is a highly  17 immunogenic vaccine. And given it contain  18 numerous mimics that match receptors that  19 have been involved in the physiology of POTS  20 indicates that it is likely that Gardasil  21 could cause POTS in susceptible individuals.  22 Q. So to break that down -- oh.  23 A. And the -- sorry. And the DNA is  24 just part of the picture because, again, it  25 is known and established in literature that</p>	<p style="text-align: right;">Page 173</p> <p>1 immunologically active if I can put it that  2 way.  3 Q. Doctor, yes or no, are you able to  4 point me to any peer-reviewed study that has  5 found that the DNA fragments in Gardasil  6 caused physical harm? Yes or no?  7 A. No, not conclusively.  8 Q. I would like to direct you back to  9 your -- actually your CV. I know we're  10 going a little bit out of order here. Your  11 CV is Exhibit 2 to your deposition. I  12 wanted to ask about the time period in which  13 you were -- the time period from 2017 to  14 2021.  15 How do you describe your work at  16 that time in your CV?  17 A. Independent research scientist.  18 Q. What research did you do after you  19 left Dr. Shaw's lab and before you started  20 working for the Children's Health Defense in  21 2021?  22 A. Again, not research as if  23 affiliated with any academic institution,  24 but just in my private capacity continuing  25 researching about these topics of interest</p>

<p style="text-align: right;">Page 174</p> <p>1 that I've been working on for the past ten  2 years. Because it's not -- I'm pretty picky  3 where I want to work, and there is just not  4 a lot of research funding supporting this  5 type of work that I do, so . . .</p> <p>6 Q. Who or what funded your research in  7 your personal capacity from 2017 to 2021  8 when you joined the Children's Health  9 Defense?</p> <p>10 A. No one funded it, no, in  11 particular. That was from my own savings.</p> <p>12 Q. So what did you do for work or for  13 money during those four years?</p> <p>14 A. Well, again, I didn't work in any  15 official capacity; so I wasn't receiving any  16 formal wages, if that's what you're asking.</p> <p>17 Q. Why did you leave Dr. Shaw's lab in  18 2017?</p> <p>19 A. Well, again, we ran out of funding,  20 so. . .</p> <p>21 Q. So the Dwoskin Family Foundation  22 stopped funding you?</p> <p>23 A. Yeah. And they were pretty much --  24 there was another grant that we received,  25 but that one ran out as well.</p>	<p style="text-align: right;">Page 176</p> <p>1 on the table or take a hike. I still want  2 to follow the literature that's relevant to  3 my interests such as safety of vaccines, in  4 general, and that's what I studied in the  5 Shaw lab.</p> <p>6 There were also -- there were  7 some -- there was one big project that we  8 were able to finish that was the last  9 project that I basically designed the study  10 for. And two publications came out of that.  11 That's publication number 3 that came in  12 2021 and publication number 4 that came out  13 in 2020.</p> <p>14 So I was involved in helping to  15 write up part of that work. Well, write up  16 the papers because, again, that's the  17 project that I designed, and that was  18 finished, but obviously there was some time  19 to analyze the data and write up the papers.</p> <p>20 Q. You were unemployed from the time  21 you left Dr. Shaw's lab in 2017 until you  22 were hired by the Children's Health Defense  23 in 2021?</p> <p>24 ATTORNEY BAUM: Objection.  25 Mischaracterizes her testimony.</p>
<p style="text-align: right;">Page 175</p> <p>1 Q. What other grant did you receive?</p> <p>2 A. I cannot remember the name, but it  3 was a grant we received in previous years.  4 It was a family estate that they decided to  5 donate to biomedical research.</p> <p>6 Q. How was it that you were hired by  7 the Children's Health Defense? How did you  8 become hired by them?</p> <p>9 A. I was approached by them and asked  10 if I was willing to work as a research  11 consultant in the Gardasil litigation.</p> <p>12 Q. The research that you did in your  13 own capacity from 2017 to 2021, was that  14 solely about Gardasil?</p> <p>15 A. No, it wasn't about Gardasil. It  16 was general. It was about, again, vaccines  17 in general. I wasn't picking on Gardasil.  18 And I wouldn't qualify -- wouldn't classify  19 it that way, even though that's what some  20 people might say of me.</p> <p>21 Q. What do you mean when you say you  22 conducted research --</p> <p>23 A. I pursued -- just because I'm no  24 longer -- I don't have the money to conduct  25 my own research doesn't mean I put my feet</p>	<p style="text-align: right;">Page 177</p> <p>1 THE WITNESS: In an official  2 capacity, yes. I wasn't employed by  3 any academy research institution.</p> <p>4 BY ATTORNEY JULIEN:</p> <p>5 Q. Were you employed by anyone or  6 any --</p> <p>7 A. No. And part of it was also  8 personal reasons because in late 20- --  9 well, in 2017, my father died, and I just  10 needed to take some time off.</p> <p>11 Q. Oh, I'm sorry to hear that.</p> <p>12 Are you able to identify a single  13 peer-reviewed study in the world that has  14 found a statistically significant increased  15 risk of POTS in a Gardasil-vaccinated  16 population versus an unvaccinated  17 population?</p> <p>18 A. No.</p> <p>19 Q. Are you able to point me to a  20 single study in the world that has found a  21 statistically significant increased risk of  22 POI, or premature ovarian failure, in a  23 Gardasil-vaccinated population versus an  24 unvaccinated population?</p> <p>25 A. No, with respect to POTS -- again,</p>



<p style="text-align: right;">Page 178</p> <p>1 same, because I wanted to get back to that.  2 But I didn't ignore all the studies. I did  3 cite those that were most relevant to POTS,  4 which are the Skufca, Cameron, and Hviid and  5 Thomsen studies.  6 It's true they didn't find an  7 increased risk of POTS. But with Cameron  8 and Skufca, they didn't use the ICD-10 code  9 for POTS because there was no international  10 ICD-10 code for POTS until 2022. So, again,  11 you cannot make a conclusive statement that  12 these studies proved there was no risk of  13 POTS when they didn't even have the ICD-10  14 code for POTS.  15 Again, they used what I called  16 codes that might capture POTS, but they'll  17 capture a lot of other things that we never  18 claimed are associated with Gardasil. So  19 that would dilute the signal.  20 The two studies that did use the  21 ICD-10 code for POTS are the two Danish  22 studies. One is Hviid, et al. and, again,  23 that's part of those articles that I handed  24 to you at the beginning. The Hviid 2020,  25 association between qHPV vaccine and</p>	<p style="text-align: right;">Page 180</p> <p>1 for POTS, POI, and autoimmune disease, and  2 those studies have failed to show an  3 affirmative association between Gardasil in  4 those conditions in a vaccinated population  5 versus an unvaccinated population.  6 You can confirm that; right?  7 A. Well, I confirmed -- what I can  8 confirm is that the studies do not support  9 these conclusions because, again, there's  10 a -- of course, every study has limitation,  11 but the question is whether these  12 limitations are significant so as to  13 basically invalidate the conclusions, and it  14 is my opinion that in -- with respect to  15 these studies that that holds true.  16 For the Thomsen study, for example,  17 their risk period was -- full out period was  18 basically one year, and that sounds like a  19 long time, and it is for most autoimmune  20 diseases, but it is not long enough for POTS  21 because the largest survey on POTS patients  22 that included 4,000 POTS patients showed  23 that the median diagnostic delay is  24 24 months, and the range was six to  25 72 months.</p>
<p style="text-align: right;">Page 179</p> <p>1 selected syndromes with autonomic  2 dysfunction and also the Thomsen study.  3 Q. Doctor, are you looking at your  4 computer right now?  5 A. Yeah, those are -- those were on  6 the flash drive --  7 Q. Okay.  8 A. -- that I gave at the beginning.  9 Q. Just to go back to what my question  10 was is: Are you able to point me to a  11 single study in the world that has found a  12 statistically significant increased risk of  13 POI or premature ovarian failure in a  14 Gardasil-vaccinated population versus an  15 unvaccinated population? Yes or no?  16 A. Yeah. POTS and POI, no, but,  17 again, one has to consider the quality of  18 the evidence presented, and if it's not very  19 good quality of evidence, then that evidence  20 is not very useful.  21 Q. And I understand that you think  22 there are limitations on every  23 epidemiological study that has been done on  24 Gardasil, but you can confirm that multiple  25 epidemiological studies have been conducted</p>	<p style="text-align: right;">Page 181</p> <p>1 Again, if your risk period where  2 you want to capture POTS is just one year,  3 you're missing a whole lot of cases that got  4 diagnosed later. Again, it's documented  5 that POTS patients have to visit multiple  6 doctors, and the diagnostic delays can be  7 over two years. Again, the median  8 diagnostic delay was two.  9 Some patients take five to seven or  10 even ten years to get a diagnosis.  11 Q. Just to be clear, you have never  12 been involved in diagnosing anyone with  13 POTS; right?  14 A. No, I haven't.  15 Q. Okay. Now, I just want to go back  16 to my question. Again, I know you have --  17 in your 338-page report, have detailed your  18 views on the various epidemiological studies  19 that have looked at this, but can you  20 confirm, yes or no, that multiple  21 epidemiological studies have been conducted  22 for POTS, POI, and autoimmune disease and  23 those studies have failed to show an  24 increased risk in a Gardasil-vaccinated  25 population versus an unvaccinated</p>

<p style="text-align: right;">Page 182</p> <p>1 population?</p> <p>2 ATTORNEY BAUM: Objection. Asked</p> <p>3 and answered.</p> <p>4 BY ATTORNEY JULIEN:</p> <p>5 Q. Can you confirm that?</p> <p>6 I don't think I got an answer.</p> <p>7 Yes or no?</p> <p>8 ATTORNEY BAUM: She did answer.</p> <p>9 You got an answer.</p> <p>10 Objection. Asked and answered.</p> <p>11 ATTORNEY JULIEN: I'm going to</p> <p>12 withdraw my question and ask it again</p> <p>13 just to make sure this comes in</p> <p>14 cleanly.</p> <p>15 BY ATTORNEY JULIEN:</p> <p>16 Q. Again, I hear you. I know you have</p> <p>17 your views on all the limitations and the</p> <p>18 epidemiological studies, and you don't think</p> <p>19 that they can prove anything, but can you</p> <p>20 confirm, yes or no, that multiple</p> <p>21 epidemiological studies have been conducted</p> <p>22 for POTS, POI, and autoimmune disease, and</p> <p>23 those studies have failed to show an</p> <p>24 increased risk in a Gardasil-vaccinated</p> <p>25 population versus an unvaccinated</p>	<p style="text-align: right;">Page 184</p> <p>1 unvaccinated population?</p> <p>2 A. No.</p> <p>3 Q. Are you able to point me to a</p> <p>4 single study in the world that has concluded</p> <p>5 that Gardasil causes autoimmune disorders in</p> <p>6 a Gardasil-vaccinated population versus an</p> <p>7 unvaccinated population?</p> <p>8 A. Well, the child study because even</p> <p>9 after all the statistical trickeries they've</p> <p>10 done, they could not get rid of the</p> <p>11 Hashimoto's signal.</p> <p>12 Q. And there you said signal.</p> <p>13 A. It was the increased risk.</p> <p>14 Q. Okay. Are you saying that the Chow</p> <p>15 study, the authors concluded that Gardasil</p> <p>16 causes autoimmune disorders?</p> <p>17 A. They didn't conclude that because</p> <p>18 they tried to put a different spin on their</p> <p>19 results as often happens.</p> <p>20 Q. So they got their data wrong too?</p> <p>21 A. Well, the data shows a statistical</p> <p>22 significant risk, and then they got to say,</p> <p>23 well, there isn't any.</p> <p>24 Q. Are you able to point me to a</p> <p>25 single study in the world where the authors</p>
<p style="text-align: right;">Page 183</p> <p>1 population?</p> <p>2 ATTORNEY BAUM: Objection. Asked</p> <p>3 and answered.</p> <p>4 BY ATTORNEY JULIEN:</p> <p>5 Q. You can answer.</p> <p>6 A. They have not found an increased</p> <p>7 risk.</p> <p>8 Q. You are unable to -- strike that.</p> <p>9 Are you able to point me to a</p> <p>10 single study in the world that has found a</p> <p>11 statistically significant increased risk of</p> <p>12 chronic fatigue syndrome in a</p> <p>13 Gardasil-vaccinated population versus an</p> <p>14 unvaccinated population?</p> <p>15 A. Chronic fatigue syndrome with</p> <p>16 Gardasil, no, but there was an increased</p> <p>17 risk with Cervarix.</p> <p>18 Q. And you understand this lawsuit is</p> <p>19 about Gardasil; right?</p> <p>20 A. Yes, yes, I do.</p> <p>21 Q. Are you able to point me to a</p> <p>22 single study in the world that has found a</p> <p>23 statistically significant increased risk of</p> <p>24 chronic regional pain syndrome in a</p> <p>25 Gardasil-vaccinated population versus an</p>	<p style="text-align: right;">Page 185</p> <p>1 have concluded that Gardasil causes</p> <p>2 autoimmune disorders in a</p> <p>3 Gardasil-vaccinated population versus an</p> <p>4 unvaccinated population?</p> <p>5 A. No.</p> <p>6 Q. Are you able to point me to a</p> <p>7 single study in the world that has concluded</p> <p>8 that Gardasil causes POTS in a</p> <p>9 Gardasil-vaccinated population versus an</p> <p>10 unvaccinated population?</p> <p>11 ATTORNEY BAUM: Objection. Asked</p> <p>12 and answered. This is maybe the</p> <p>13 fourth time you've asked her that same</p> <p>14 question.</p> <p>15 THE WITNESS: I've already</p> <p>16 answered, yes, that --</p> <p>17 BY ATTORNEY JULIEN:</p> <p>18 Q. That there is no study?</p> <p>19 A. No, there is no study.</p> <p>20 Q. Are you able to point me to a</p> <p>21 single study in the world that has concluded</p> <p>22 that Gardasil causes POI or POF in a</p> <p>23 Gardasil-vaccinated population versus an</p> <p>24 unvaccinated population?</p> <p>25 A. No.</p>

<p style="text-align: right;">Page 186</p> <p>1 Q. The use of new medical history in 2 the Gardasil clinical trials, that was also 3 approved by the FDA; right? 4 A. It was. 5 Q. The monitoring of adverse events in 6 the Gardasil clinical trials was disclosed 7 to the FDA and ultimately approved by the 8 FDA; right? 9 A. Correct. 10 Q. The follow-up time after each 11 Gardasil vaccine dose in the Gardasil 12 clinical trials was disclosed to the FDA and 13 approved by the FDA; right? 14 A. Correct. 15 Q. You purport to have performed a 16 Bradford Hill analysis in your report; is 17 that right? 18 A. Yes. 19 Q. And you say that the Bradford Hill 20 analysis that you performed in your report 21 was related to the Gardasil vaccine 22 POTS/dysautonomia signal; is that right? 23 A. Correct. 24 Q. You did not perform a Bradford Hill 25 analysis related to POI or any other</p>	<p style="text-align: right;">Page 188</p> <p>1 because experiments have shown, and 2 particularly with respect to aluminum 3 adjuvants, that lower doses can be more 4 neurotoxic than higher doses. Again, that 5 has all to do with pharmacokinetics and 6 distribution of aluminum adjuvants. 7 Aluminum adjuvants are 8 nanoparticles that aggregate to 9 microparticles. And there is a certain size 10 that is optimal for the process of 11 fibrocytosis, which is when the immune cells 12 take up aluminum. If the microparticle 13 aggregates are of larger size, then the 14 macrophages will not be able to take them up 15 as easily. 16 Q. Do you mind if we break this down a 17 little bit? So your Gardasil 18 POTS/dysautonomia signal that you offer in 19 your report, you understand that that does 20 not satisfy three of the Bradford Hill 21 criteria: specificity, dose response, and 22 experimental evidence; right? 23 A. Correct. 24 Q. Now, let's just take this a step at 25 a time. Specificity in the Bradford Hill</p>
<p style="text-align: right;">Page 187</p> <p>1 diagnosis in your report; correct? 2 A. No, I didn't. 3 Q. And you conclude in your report 4 that the fact that the Gardasil 5 vaccine-associated POTS/dysautonomia signal 6 satisfies six of the seven relevant Bradford 7 Hill criteria supports a causal 8 relationship; is that right? 9 A. Correct. 10 Q. There are nine Bradford Hill 11 criteria; correct? 12 A. Correct. 13 Q. And it's your opinion that Gardasil 14 and POTS -- strike that. 15 It's your opinion that the Gardasil 16 vaccine-associated POTS/dysautonomia signal 17 satisfies six out of nine of the Bradford 18 Hill criteria? 19 A. Yeah, six out of nine. But, again, 20 some are irrelevant, like the biological 21 gradient, because it's well recognized in 22 science that some certain compounds do not 23 obey the rules of the dose makes the poison. 24 Aluminum is one of them. 25 It's by no means the only compound</p>	<p style="text-align: right;">Page 189</p> <p>1 criteria is when a single putative cause 2 produces a specific effect; right? 3 A. Right. 4 Q. And you recognize that POTS can be 5 the result of various different infections 6 and different causes? 7 A. Exactly, yeah. Just like multiple 8 sclerosis. Yeah, it's been associated with 9 numerous infections. 10 Q. And other -- you agree that even 11 under your theory we established that there 12 can be a number of causes of POTS that have 13 nothing to do with Gardasil? 14 A. Absolutely. 15 Q. The next criteria that -- the next 16 criterion that is not met with your Gardasil 17 signal is dose response; is that right? 18 A. Yes. 19 Q. Or biological gradient I think is 20 how you described it? 21 A. Yeah, biological gradient or dose 22 response, which is -- yeah, it's the same 23 thing. 24 Q. Now, dose response or biological 25 gradient in the Bradford Hill criteria is</p>

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<p style="text-align: right;">Page 190</p> <p>1 when increased exposure results in increased 2 risk or incidence of disease? 3 A. Yeah. 4 Q. And sorry, we want to make sure 5 we're not talking over each other. 6 A. Yeah, for sure. 7 Q. You say that traditional -- strike 8 that. 9 You say in your report traditional 10 dose response relationships don't 11 necessarily apply to aluminum-adjuvant 12 vaccines. 13 A. Yeah, again, and not just -- and 14 I'm not saying that aluminum adjuvants are 15 the only one that don't obey this principle 16 because as I write in my report that even 17 this called monotonic biological gradient 18 where increased -- exposure results in 19 increased incidence. Again, it was even 20 acknowledged by Bradford Hill that there 21 is -- there are more complex dose response 22 relationships. Again, recent research 23 experiments verified that. 24 And, again, I just gave an example 25 of aluminum because aluminum is what I'm</p>	<p style="text-align: right;">Page 192</p> <p>1 is above a certain threshold, then those 2 microparticles, once injected, will tend to 3 clump in larger particles. So it depends on 4 the actual dose of aluminum that's in the 5 vaccine. 6 ATTORNEY BAUM: I want to object. 7 You're mischaracterizing her testimony 8 with respect to the aluminum as not 9 being monotonic as opposed to 10 rechallenge from multiple exposures to 11 Gardasil. 12 THE WITNESS: Yeah, that's why I 13 corrected. It's not whether 14 someone -- that someone that receives 15 three doses of Gardasil, that that's 16 less risky. It depends on the dose of 17 aluminum because, again, what the 18 experimental research has experimented 19 with is different doses of the 20 aluminum adjuvant. 21 And the aluminum adjuvant in 22 Gardasil does fall into doses that are 23 normal for vaccines. It's not like a 24 lot of the vaccines contain that dose 25 of aluminum. It's not -- they don't</p>
<p style="text-align: right;">Page 191</p> <p>1 dealing with, and it's based on experimental 2 data, again, that shows that lower doses of 3 aluminum, because they don't aggregate in 4 big microparticles, they are more 5 effectively taken up by the macrophages and 6 then distributed throughout the body 7 including the brain, and they produced no 8 adverse neurobehavioral outcomes. 9 Whereas larger doses do not get 10 taken out by the macrophages, and they 11 mostly then stay at the injection site in 12 the form of granulomas. So they don't exert 13 systemic toxicity to the same extent as the 14 lower doses. 15 Q. In layman's terms, there's no 16 evidence that there's some sort of increased 17 risk of dysautonomia, for example, in 18 individuals who have received three doses of 19 Gardasil versus those who have received one? 20 A. Right. 21 Q. Let's move on to experimental 22 evidence. 23 A. It wouldn't be three doses of 24 Gardasil versus one. It depends how much 25 aluminum is -- if the aluminum concentration</p>	<p style="text-align: right;">Page 193</p> <p>1 contain much -- Gardasil doesn't 2 contain much higher doses aluminum 3 compared to other vaccines. 4 BY ATTORNEY JULIEN: 5 Q. Let's move on to experimental 6 evidence. Experimental evidence in the 7 Bradford Hill criteria is the successful 8 reproduction of a pathology or adverse 9 events related to a drug under controlled 10 conditions; is that right? 11 A. Right. 12 Q. And you write in your report that 13 your Gardasil vaccine POTS/dysautonomia 14 signal does not satisfy the experimental 15 evidence criterion. 16 ATTORNEY BAUM: Objection. 17 Mischaracterizes her report. 18 THE WITNESS: Well, in that strict 19 sense, no. Like POTS has not been 20 reproduced, say, in rabbits with 21 injection of Gardasil. No one has 22 attempted that kind of experiment, to 23 my knowledge, to try and reproduce 24 specifically POTS in some animal 25 model.</p>

<p style="text-align: right;">Page 194</p> <p>1 As I said in my report, it would</p> <p>2 be pretty difficult because you</p> <p>3 would -- you would need to consider</p> <p>4 also, again, the choice of animal</p> <p>5 strain is important and whether you're</p> <p>6 going to use a genetic or susceptible</p> <p>7 strain or no.</p> <p>8 BY ATTORNEY JULIEN:</p> <p>9 Q. Just to break that down, POTS has</p> <p>10 not been reproduced in animal studies with</p> <p>11 the injection of Gardasil; correct?</p> <p>12 A. No, it hasn't.</p> <p>13 Q. I want to talk about your strength</p> <p>14 of association opinion regarding the -- that</p> <p>15 criterion of the Bradford Hill analysis.</p> <p>16 A. Yeah.</p> <p>17 Q. And in short, your opinion is that</p> <p>18 the disproportionality analysis that you</p> <p>19 performed in this case satisfies or supports</p> <p>20 the strength of association criterion in the</p> <p>21 Bradford Hill analysis plus you cite two</p> <p>22 what you described as epidemiological</p> <p>23 studies: Fukushima and Jorgensen; right?</p> <p>24 A. Right.</p> <p>25 Q. And you also opine that your</p>	<p style="text-align: right;">Page 196</p> <p>1 difference just in a single symptom,</p> <p>2 especially since there are relatively no</p> <p>3 specific symptoms. But when you look at the</p> <p>4 cluster of symptoms, they're significantly</p> <p>5 overrepresented.</p> <p>6 To me, the fact that by 2010, even</p> <p>7 with something that's, again, relatively --</p> <p>8 there's a lower awareness among physicians,</p> <p>9 especially among primary care physicians,</p> <p>10 about dysautonomic syndromes, and they're</p> <p>11 the primary point of contact for patients.</p> <p>12 And so by 2010, there were already seven</p> <p>13 cases in VAERS of POTS following Gardasil,</p> <p>14 and there were zero associated exclusively</p> <p>15 with Gardasil for all other vaccines in the</p> <p>16 vaccination schedule.</p> <p>17 So if POTS in the</p> <p>18 Gardasil-vaccinated simply represented</p> <p>19 background rates, you would expect to see</p> <p>20 some cases with other vaccines, especially</p> <p>21 in that target age group, 6- to</p> <p>22 17-year-olds, because this is where POTS</p> <p>23 normally or frequently happen. So how come</p> <p>24 there is zero?</p> <p>25 By end of 2010 -- that was before</p>
<p style="text-align: right;">Page 195</p> <p>1 disproportionality analysis results are</p> <p>2 consistent with Chandler, Zi, Tatang, Gong,</p> <p>3 and Bonaldo.</p> <p>4 A. Correct.</p> <p>5 Q. You believe the results of your</p> <p>6 disproportionality analysis are epidemiology</p> <p>7 supported by the Fukushima and Jorgensen</p> <p>8 studies; correct?</p> <p>9 A. Yes. To a degree. Simply because</p> <p>10 Fukushima -- they didn't look at diagnosis</p> <p>11 of POTS. They looked at the symptoms, and</p> <p>12 that was the whole purpose of the -- that</p> <p>13 part of the algorithm that is symptom-based,</p> <p>14 recognizing the fact that POTS is</p> <p>15 underdiagnosed.</p> <p>16 And the Fukushima study shows that</p> <p>17 there's a greater rate of incidence of these</p> <p>18 clusters of symptoms in the vaccinated</p> <p>19 Japanese girls than the unvaccinated,</p> <p>20 especially when you -- as the number of</p> <p>21 symptoms increases because obviously if it's</p> <p>22 just -- if you are just talking about</p> <p>23 dizziness, and most teenagers have</p> <p>24 experienced dizziness in their lives.</p> <p>25 You would not expect to see a</p>	<p style="text-align: right;">Page 197</p> <p>1 there was any media -- potentially</p> <p>2 media-stimulated reporting because by 2010,</p> <p>3 there was only one published case report of</p> <p>4 POTS, and that was by Svetlana Blitshteyn.</p> <p>5 Q. We'll talk about your</p> <p>6 disproportionality analysis. I was just</p> <p>7 asking is it your opinion that the Fukushima</p> <p>8 and Jorgensen studies are epidemiological</p> <p>9 support for your disproportionality</p> <p>10 analysis?</p> <p>11 A. Yeah, with the acknowledged</p> <p>12 limitations.</p> <p>13 Q. Okay. Let's look at Fukushima.</p> <p>14 I'm going a little bit out of order here.</p> <p>15 I'm going to come back to Exhibit 16, but</p> <p>16 I'm marking this as Exhibit 17.</p> <p>17 (Exhibit Number 17 was marked for</p> <p>18 identification.)</p> <p>19 BY ATTORNEY JULIEN:</p> <p>20 Q. I'm handing you what's been marked</p> <p>21 as Exhibit 17 to your deposition. This is</p> <p>22 the Fukushima 2022 publication that you</p> <p>23 indicated in your report is epidemiological</p> <p>24 support for your disproportionality</p> <p>25 analysis.</p>

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<p style="text-align: right;">Page 198</p> <p>1 Do you recognize this paper?</p> <p>2 A. Yeah.</p> <p>3 Q. If we look at just the abstract,</p> <p>4 let's look at the method section of the</p> <p>5 abstract. It says: A two-stage descriptive</p> <p>6 nationwide epidemiological survey was</p> <p>7 conducted in 2016 with a six-month target</p> <p>8 period from July 1 to December 31, 2015, to</p> <p>9 estimate the prevalence and incidence of</p> <p>10 diverse symptoms among Japanese adolescents</p> <p>11 without HPV vaccination.</p> <p>12 Did I read that correctly?</p> <p>13 A. Yes.</p> <p>14 Q. Is it your opinion that Fukushima</p> <p>15 in 2022 -- strike that.</p> <p>16 Let's look at the conclusion of the</p> <p>17 abstract. The conclusion of Fukushima 2022</p> <p>18 in the abstract is: Adolescent Japanese</p> <p>19 girls without HPV vaccination also visited</p> <p>20 hospitals with diverse symptoms similar to</p> <p>21 those following HPV vaccination. Our</p> <p>22 findings predict the medical demands for</p> <p>23 coincident diverse symptoms, which are</p> <p>24 temporarily associated with but are not</p> <p>25 caused by HPV vaccination of Japanese</p>	<p style="text-align: right;">Page 200</p> <p>1 right?</p> <p>2 A. Yes.</p> <p>3 Q. And so you're saying that as</p> <p>4 someone with no medical training, you didn't</p> <p>5 go to medical school, you're saying that</p> <p>6 these authors misinterpreted their study</p> <p>7 data in reaching their conclusion; is that</p> <p>8 right?</p> <p>9 A. Well, if there was no increased</p> <p>10 risk with Gardasil, I would expect -- and if</p> <p>11 events that happened with Gardasil or HPV</p> <p>12 vaccines because, again, in Japan, they use</p> <p>13 both Gardasil and Cervarix. But, again, if</p> <p>14 there was no risk with Gardasil whatsoever,</p> <p>15 then these lines should be sitting. They</p> <p>16 should overlap. There should not be this</p> <p>17 difference.</p> <p>18 Q. Okay. So you refer to Figure 2 and</p> <p>19 say that there's a big difference between</p> <p>20 the vaccinated and unvaccinated results.</p> <p>21 Let's look at Fukushima 2022. Let's go to</p> <p>22 page 40 of this publication under the</p> <p>23 Discussion section.</p> <p>24 A. Yes.</p> <p>25 Q. And I'd like to go to the third</p>
<p style="text-align: right;">Page 199</p> <p>1 adolescents.</p> <p>2 Did I read that correctly?</p> <p>3 A. Yes.</p> <p>4 Q. And if we --</p> <p>5 A. And, again, yeah, that's too strong</p> <p>6 statement that's not supported by the data</p> <p>7 because, again, the fact that in Figure 2,</p> <p>8 you clearly see a big difference in the</p> <p>9 prevalence of diverse symptoms between never</p> <p>10 vaccinated and those that were vaccinated.</p> <p>11 And when you go -- when it comes</p> <p>12 to -- when there is about five or six</p> <p>13 symptoms, it's even greater, but it's clear</p> <p>14 throughout the whole figure that there's a</p> <p>15 big difference between the vaccinated and</p> <p>16 the unvaccinated.</p> <p>17 Q. Let's look at --</p> <p>18 A. And --</p> <p>19 Q. If I can, I'd like to ask you some</p> <p>20 questions.</p> <p>21 A. Yeah, yeah.</p> <p>22 Q. So the authors of Fukushima, if we</p> <p>23 look at the first page of this publication,</p> <p>24 Fukushima 2022, they're all affiliated with</p> <p>25 different schools of medicine in Japan;</p>	<p style="text-align: right;">Page 201</p> <p>1 full paragraph that starts with: In</p> <p>2 addition.</p> <p>3 A. Okay.</p> <p>4 Q. That paragraph begins -- strike</p> <p>5 that.</p> <p>6 This paragraph in Fukushima 2022</p> <p>7 states: In addition to the prevalence of</p> <p>8 diverse symptoms among girls without a</p> <p>9 history of HPV vaccination group A, we</p> <p>10 estimated the prevalence among vaccinated</p> <p>11 girls whose symptoms occurred after</p> <p>12 vaccination group C.</p> <p>13 However, these estimates cannot be</p> <p>14 directly compared between the groups because</p> <p>15 suspension of the proactive recommendation</p> <p>16 for HPV vaccination in Japan led to a</p> <p>17 smaller vaccinated population among girls</p> <p>18 age 12 to 14 years.</p> <p>19 Did I read that correctly?</p> <p>20 A. Yeah.</p> <p>21 Q. And then if we go to the next</p> <p>22 paragraph, that paragraph begins with the</p> <p>23 sentence: There are other reasons why we</p> <p>24 cannot compare prevalence between</p> <p>25 unvaccinated and vaccinated girls.</p>

<p style="text-align: right;">Page 202</p> <p>1 Did I read that correctly?</p> <p>2 A. Yes.</p> <p>3 Q. And then if we turn the page and go</p> <p>4 to the -- just above the acknowledgments on</p> <p>5 page 42 of Fukushima 2022.</p> <p>6 A. Yeah.</p> <p>7 Q. And I'd like to direct your</p> <p>8 attention to the last paragraph says: In</p> <p>9 conclusion, but I'd like to go a few lines</p> <p>10 above that where it says: Since our survey</p> <p>11 was subject.</p> <p>12 Do you see that on the left side?</p> <p>13 A. Yes, I do.</p> <p>14 Q. This paragraph of Fukushima 2022</p> <p>15 states: Since our survey was subject to</p> <p>16 substantial bias in comparing prevalence of</p> <p>17 diverse symptoms between unvaccinated and</p> <p>18 vaccinated girls, the highest priority was</p> <p>19 appropriate interpretation of the prevalence</p> <p>20 of diverse symptoms among unvaccinated</p> <p>21 girls.</p> <p>22 This priority led us to not attempt</p> <p>23 estimation of competence intervals, CIs, as</p> <p>24 well as statistical testing because</p> <p>25 evaluating the extent of chance would not</p>	<p style="text-align: right;">Page 204</p> <p>1 unvaccinated girls in Fukushima in your</p> <p>2 report; correct?</p> <p>3 A. Yes, I am comparing them.</p> <p>4 ATTORNEY JULIEN: Okay. Next I'd</p> <p>5 like to mark Jorgensen 2020.</p> <p>6 (Exhibit Number 18 was marked for</p> <p>7 identification.)</p> <p>8 BY ATTORNEY JULIEN:</p> <p>9 Q. Doctor, I'm handing you what's been</p> <p>10 marked as Exhibit 18 to your deposition.</p> <p>11 This is the Jorgensen 2020 publication.</p> <p>12 Now, you did not -- if you turn to</p> <p>13 page, I don't know, 20 -- maybe like halfway</p> <p>14 in or so, there's like another file back</p> <p>15 here that's entitled Additional File 4.</p> <p>16 A. Oh, it's the supplement; right? I</p> <p>17 think.</p> <p>18 Q. Did you review additional file 4 to</p> <p>19 Jorgensen in arriving at your opinions?</p> <p>20 A. Let me see. Can I --</p> <p>21 Q. Oh, sure. You can look at this.</p> <p>22 I'll give you mine.</p> <p>23 A. Yeah, that's the supplemental file.</p> <p>24 That what I thought, yeah.</p> <p>25 Q. Okay.</p>
<p style="text-align: right;">Page 203</p> <p>1 make sense under the considerable influence</p> <p>2 of bias.</p> <p>3 Did I read that correctly?</p> <p>4 A. Yes.</p> <p>5 Q. So the Fukushima 2022 authors state</p> <p>6 in their publication that you cannot compare</p> <p>7 prevalence between vaccinated girls and</p> <p>8 unvaccinated girls, and that's precisely</p> <p>9 what you're doing in your report; right?</p> <p>10 A. Well, what was the purpose of them</p> <p>11 even estimating if you absolutely cannot</p> <p>12 compare it?</p> <p>13 Q. I just would like an answer. The</p> <p>14 Fukushima 2022 authors stated in their</p> <p>15 publication that you cannot compare</p> <p>16 prevalence between vaccinated girls and</p> <p>17 unvaccinated girls, and you are comparing</p> <p>18 prevalence between vaccinated girls and</p> <p>19 unvaccinated girls; right?</p> <p>20 ATTORNEY BAUM: Objection. That</p> <p>21 mischaracterizes what her report says</p> <p>22 and does.</p> <p>23 BY ATTORNEY JULIEN:</p> <p>24 Q. You're attempting to compare the</p> <p>25 prevalence between vaccinated and</p>	<p style="text-align: right;">Page 205</p> <p>1 A. Yeah, I have seen the supplemental</p> <p>2 file.</p> <p>3 Q. Okay. You identified Jorgensen</p> <p>4 2020 as additional epidemiological support</p> <p>5 for your disproportionality analysis; right?</p> <p>6 A. Yes, again, with the acknowledged</p> <p>7 limitations.</p> <p>8 Q. When did you first see the</p> <p>9 Supplement Additional File 4? Was it before</p> <p>10 or after you wrote your report?</p> <p>11 A. I've seen it before.</p> <p>12 Q. I'd like to turn to page 20 of the</p> <p>13 Jorgensen publication.</p> <p>14 A. Yes, 20.</p> <p>15 Q. And if we go to -- it says</p> <p>16 Conclusion and then above that, Similar</p> <p>17 Studies.</p> <p>18 A. Right, yeah.</p> <p>19 Q. Do you see there that the Jorgensen</p> <p>20 2020 authors stated: The analyses do not</p> <p>21 prove that the HPV vaccines cause POTS and</p> <p>22 CRPS, but they do provide a signal?</p> <p>23 A. Yeah, I see the paragraph, yeah.</p> <p>24 Q. We can set that aside.</p> <p>25 I want to ask a few questions --</p>

<p style="text-align: right;">Page 206</p> <p>1 actually, I'm sorry. Let me make sure.  2 A. Again, there's a difference between  3 conclusive proof and just another piece that  4 adds to the whole picture, which is our  5 arguments when you have so many -- yes, you  6 have a lot of -- you have case reports. You  7 have Mehlsen's study with over 800 patients.  8 You have Chandler's study that shows similar  9 symptoms of being reported in different  10 geographical regions irrespective of the  11 diagnosis.  12 Q. And Mehlsen and Chandler did not  13 involve a comparison of vaccinated  14 individuals versus unvaccinated individuals;  15 right?  16 A. No, they haven't.  17 Q. Okay. And the Jorgensen authors  18 stated in their publication that their  19 analyses provide a signal but do not  20 establish causation; correct?  21 A. Correct.  22 Q. Okay. I'm handing you what has  23 been marked as Exhibit 16 to your  24 deposition. We're going back here. I  25 skipped ahead based on a comment you made.</p>	<p style="text-align: right;">Page 208</p> <p>1 used to conduct your disproportionality  2 analysis?  3 A. Yes, it is.  4 Q. Now, if we go to page 2, do you see  5 a disclaimer?  6 A. I do.  7 Q. When you went to access the VAERS  8 database to perform your disproportionality  9 analysis, you saw this same disclaimer?  10 A. Yes, I have.  11 Q. Let's walk through it. It says --  12 the CDC's VAERS website says: VAERS accepts  13 reports of adverse events that occur  14 following vaccination. Anyone, including  15 healthcare providers, vaccine manufacturers,  16 and the public, can submit reports to the  17 system.  18 Did I read that correctly?  19 A. Yes.  20 Q. And you're aware of that; right?  21 A. Yes.  22 Q. VAERS also includes lawsuits. You  23 know that; right?  24 A. Yes, I know lawyers can report to  25 VAERS also.</p>
<p style="text-align: right;">Page 207</p> <p>1 (Exhibit Number 16 was marked for  2 identification.)  3 BY ATTORNEY JULIEN:  4 Q. Now, as part of your -- strike  5 that.  6 To conduct your disproportionality  7 analysis, you used the VAERS, vaccine  8 adverse event reporting system; correct?  9 A. Correct.  10 Q. And VAERS is publicly available;  11 right?  12 A. Yes.  13 Q. You're aware that VAERS is  14 comanaged by the CDC and FDA?  15 A. Yes.  16 Q. You agree that reports of adverse  17 events in the VAERS database have a number  18 of limitations?  19 A. Yes, absolutely, like all other  20 passive adverse reporting systems.  21 Q. Let's look -- I'd like to look at  22 what I marked as Exhibit 16 to your  23 deposition, which is the CDC Wonder website.  24 A. Yeah.  25 Q. Is this the VAERS website that you</p>	<p style="text-align: right;">Page 209</p> <p>1 Q. If we move on, it says: While very  2 important in monitoring vaccine safety,  3 VAERS reports alone cannot be used to  4 determine if a vaccine caused or contributed  5 to an adverse event or illness.  6 Did I read that correctly?  7 A. Yes.  8 Q. And you agree with that statement  9 from the CDC?  10 A. Yeah, you cannot determine or  11 assert that a VAERS report in and of itself  12 is absolute evidence of a causal  13 association.  14 Q. And then I'd like to move to the  15 next paragraph. The bolded sentence on the  16 CDC VAERS website says: VAERS reports may  17 contain information that is incomplete,  18 inaccurate, coincidental, or unverifiable.  19 Did I read that correctly?  20 A. Yes, correct.  21 Q. Are you aware of that?  22 A. Yes, I am aware of that, and that  23 is not specific to the Gardasil vaccine.  24 There would be equal proportion of  25 inaccuracy and complete reports to other</p>

<p style="text-align: right;">Page 210</p> <p>1 vaccines. There's no reason why Gardasil 2 reports would be more complete than 3 hepatitis B vaccine reports. 4 Q. Is that based on a study, or that's 5 just your gut feeling? 6 A. It's not the gut feeling because I 7 reviewed reports, VAERS reports, from other 8 vaccines. 9 Q. And it goes on to say that: 10 Reports from VAERS can also be biased. As a 11 result, there are limitations on how the 12 data can be used scientifically. 13 A. Correct. 14 Q. You agree that active litigation 15 would impact the proportion and accuracy of 16 reports in VAERS; right? 17 A. Yes, but there was no active 18 litigation by 2010 or even by 2012 with 19 respect to Gardasil, and yet there was a 20 pretty significant disproportionality signal 21 with respect to Gardasil and POTS and 22 menstrual abnormalities. 23 Q. If we turn back to the disclaimer 24 on the CDC website, it says: Key 25 considerations and limitations of VAERS</p>	<p style="text-align: right;">Page 212</p> <p>1 A. I believe that encompasses the 2 previous studies because the patients that 3 have been published in previous reports I 4 believe make the same cohort. 5 (Exhibit Number 19 was marked for 6 identification.) 7 /// 8 BY ATTORNEY JULIEN: 9 Q. I'm handing you what's been marked 10 as Exhibit 19 to your deposition. The title 11 of this publication is Safety Monitoring in 12 the Vaccine Adverse Event Reporting System, 13 VAERS. 14 Do you see that? 15 A. Yes. 16 Q. And this publication is authored by 17 Dr. Shimabukuro and others? 18 A. Yes. 19 Q. And Dr. Shimabukuro and the other 20 individuals listed here are CDC and FDA 21 researchers? 22 A. Yes, the same that asked Merck to 23 inform -- potentially inform them of their 24 strategy how to search VAERS in reference to 25 POTS.</p>
<p style="text-align: right;">Page 211</p> <p>1 data. 2 Do you see that? And then there's 3 a bullet point list? 4 A. Yes, I do. 5 Q. One of the key considerations and 6 limitations of VAERS data is that: The 7 number of reports alone cannot be 8 interpreted as evidence of a causal 9 association between a vaccine and an adverse 10 event or as evidence about the existence, 11 severity, frequency, or rates of problems 12 associated with vaccines. 13 Did I read that correctly? 14 A. Yes. 15 Q. Do you agree with that CDC 16 statement? 17 A. Again, yes, if I had VAERS alone, 18 but we don't have VAERS alone. Again, we 19 have case reports and large case series such 20 as Mehlsen and other pieces of data that are 21 part of the picture. 22 Q. Just to be clear, the Mehlsen study 23 you're referring to is the 2022? 24 A. Yeah, because that -- 25 Q. Okay.</p>	<p style="text-align: right;">Page 213</p> <p>1 Q. Okay. If we go to the abstract of 2 this publication, I want to draw your 3 attention to -- actually, I want to direct 4 your attention to page 4402 of Shimabukuro. 5 A. Sorry. Which one again? 6 Q. 4402. 7 A. 4402. Okay. 8 Q. And I wanted to contextualize the 9 disproportionality analysis you performed in 10 this litigation by directing you to Figure 3 11 in the top right corner. 12 A. Yeah. 13 Q. Do you see the Figure 3 in 14 Shimabukuro's publication is a two-by-two 15 contingency table illustrating a 16 hypothetical signal vaccine -- or single 17 vaccine and AE combination scenario? 18 A. Sorry. Single vaccine and 19 compensation scenario? 20 Q. Yeah, if you look at the 21 description of Figure 3, it says: 22 Two-by-two contingency table illustrating a 23 hypothetical single vaccine and adverse 24 event combination scenario? 25 A. Yes.</p>

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<p style="text-align: right;">Page 214</p> <p>1 Q. And you're familiar with two-by-two 2 contingency tables?</p> <p>3 A. Yes.</p> <p>4 Q. The disproportionality analysis you 5 performed in this litigation only includes 6 adverse events that fall into the category 7 of the small gray area, A2, in Figure 3. 8 Those are individuals who were vaccinated --</p> <p>9 A. Yes, reported to VAERS because 10 obviously I cannot know the number of those 11 that did not report to VAERS.</p> <p>12 Q. So just to make sure we weren't 13 overlapping. The disproportionality 14 analysis that you performed in this case 15 only includes the adverse events that fall 16 into section A2 of Figure 3 of Shimabukuro?</p> <p>17 A. Right, those that were reported to 18 VAERS.</p> <p>19 Q. Your disproportionality analysis 20 only includes vaccinated individuals who had 21 an AE that was reported to VAERS; correct?</p> <p>22 A. Correct.</p> <p>23 Q. The disproportionality analysis you 24 performed in this litigation did not include 25 individuals in section D who were not</p>	<p style="text-align: right;">Page 216</p> <p>1 reactions.</p> <p>2 Again, it's pretty standard. You 3 have your vaccine or drug of interest, and 4 you have a comparator which excludes that, 5 and then you have the adverse event of 6 interest for both and all other adverse 7 events, so all other adverse events both for 8 the vaccine of interest and for the 9 comparator group.</p> <p>10 Q. And just to -- there was a lot 11 there. I just want to make sure my question 12 was answered. Section D of Figure 3 -- do 13 you see that, Figure 3 on the Shimabukuro 14 publication?</p> <p>15 A. Yeah, I do. And I'm not -- again, 16 I would like to read the whole paper because 17 what are they referring to when it says not 18 vaccinated? I'm doing a disproportionality 19 analysis in VAERS. Everyone who reports to 20 VAERS has been vaccinated with something.</p> <p>21 Q. Okay. And then if we -- maybe I'll 22 direct your attention just below that. 23 Actually, take a step back. You have not 24 read or considered Shimabukuro 2015; is that 25 right?</p>
<p style="text-align: right;">Page 215</p> <p>1 vaccinated and did not have an adverse 2 event?</p> <p>3 A. Well, it includes obviously 4 individuals who are vaccinated with other 5 vaccines. And, again, back to the 6 contingency tables which was sourced by -- 7 from publications that outlined the methods, 8 how the disproportionality analysis is done. 9 Again, it's a pretty standard method that 10 you have a vaccine of interest and you have 11 a comparator which includes all other 12 vaccines excluding vaccines of interest.</p> <p>13 And in my case, I excluded also 14 Cervarix because, again, the litigation is 15 with respect to Gardasil. So I did not want 16 to have Cervarix confounders, even though 17 Cervarix is associated with similar adverse 18 events, but it's also the number of adverse 19 events with Cervarix is -- it's very small.</p> <p>20 And, again, so that's -- that's a 21 pretty standard contingency table for this 22 kind of analysis, and I've derived it 23 from -- checked different -- several sources 24 that don't deal with just vaccine adverse 25 reactions. They deal with drug adverse</p>	<p style="text-align: right;">Page 217</p> <p>1 A. No, I haven't seen this paper 2 because it was not necessary that I read 3 this particular paper to know how to conduct 4 a disproportionality analysis. Again, as 5 you know, Martin Kulldorff endorsed the 6 method. And again, I consider him 7 definitely an expert who is in data mining 8 and vaccine safety analysis as well as 9 epidemiology.</p> <p>10 Q. Just to step back, I'm not -- we'll 11 get to questions about your specific 12 analysis. I'm just trying to contextualize 13 what exactly it is you did in this case.</p> <p>14 If we look at the language just 15 below the chart on Figure 3, do you see that 16 if we go, I don't, know, six lines down, do 17 you see the sentence that says: Because 18 VAERS data?</p> <p>19 A. Yes, do not include an unvaccinated 20 and comparison group. It is not possible to 21 calculate and compare rates of adverse event 22 in vaccinated versus unvaccinated. Yes.</p> <p>23 Q. Do you agree that because VAERS 24 data do not include an unvaccinated 25 comparison group, it is not possible to</p>

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<p style="text-align: right;">Page 218</p> <p>1 calculate and compare rates of adverse 2 events in vaccinated versus unvaccinated 3 individuals and determine if vaccination is 4 associated with an increased risk of an 5 adverse event using VAERS data? 6 A. Again, absolute risks are not -- 7 these are not -- yes, you are not able to 8 determine them from the disproportionality 9 analysis, and that's not the purpose of this 10 disproportionality analysis because 11 disproportionality analysis reports the 12 frequencies of adverse events, frequencies 13 of reporting of adverse events. It doesn't 14 quantify, obviously, a risk of adverse event 15 in a general population. 16 So these are well-known 17 limitations, but it doesn't invalidate the 18 disproportionality analysis as a tool of 19 pharmacovigilance, and it's being used for a 20 long, long time. It is considered as a 21 cornerstone of pharmacovigilance, again, 22 given its limitations and for the purpose, 23 which is a signal detection. 24 Q. Okay. So you agree that a 25 disproportionality analysis should only be</p>	<p style="text-align: right;">Page 220</p> <p>1 Q. Do you agree with the CDC and FDA 2 researchers? 3 A. I do agree with that, yeah. 4 Q. A disproportionality analysis only 5 considers the reports that were actually 6 made in VAERS; correct? 7 A. Right. 8 Q. It does not include events that 9 occurred but were not reported to VAERS; 10 right? 11 A. Correct. 12 Q. You worked with -- we discussed 13 earlier that you worked with Dr. Brinth on 14 your disproportionality analysis in this 15 case? 16 A. Correct. 17 Q. We received some emails yesterday 18 showing some communications that you had 19 with Dr. Brinth by email in January of 2023. 20 When did you start working with 21 Dr. Brinth to construct the algorithm that 22 you used for your disproportionality 23 analysis in this case? 24 A. I cannot tell you the exact day or 25 month, but it would have been in 2022 for</p>
<p style="text-align: right;">Page 219</p> <p>1 used for signal detection; correct? 2 A. Correct. 3 Q. VAERS is -- strike that. 4 I'd like to direct your attention 5 to the page ending in 4401. And I want to 6 look at the second full paragraph under this 7 ratio on the right side that starts with 8 Disproportionality Analysis. 9 Do you see that? 10 A. Yes. 11 Q. The Shimabukuro authors write: 12 Disproportionality analysis complements 13 clinical reviews and other analyses to 14 identify adverse events that may be more 15 frequently associated with a particular 16 vaccine. 17 A result that exceeds a 18 pre-specified statistical learned threshold 19 might warrant further evaluation such as a 20 clinical review of reports but does not 21 definitively demonstrate a true increased 22 risk of an adverse event, a causal 23 association, or a safety problem. 24 Did I read that correctly? 25 A. Yes.</p>	<p style="text-align: right;">Page 221</p> <p>1 sure because that's not something you can do 2 overnight. 3 Q. And, just for the record, we will 4 be requesting those earlier communications 5 because I believe the earliest we received 6 yesterday was January of 2023. 7 ATTORNEY BAUM: We conveyed to you 8 all the ones she relied upon for 9 generating the algorithm. 10 ATTORNEY JULIEN: She said that 11 she started speaking with her about it 12 about a year before. 13 THE WITNESS: Not an entire year 14 before. 15 ATTORNEY JULIEN: 2022. 16 THE WITNESS: Because January '23, 17 we were already -- well, we were 18 already sometime -- it was -- we 19 already were close to finalizing the 20 algorithm. Yes, there was a lot of 21 discussion, but not like January, 22 2022. 23 BY ATTORNEY JULIEN: 24 Q. Okay. So in January of 2023, you 25 were close to finalizing the algorithm that</p>

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<p style="text-align: right;">Page 222</p> <p>1 you used in your expert report in this 2 litigation? 3 A. Yes. 4 Q. But you had discussed that 5 algorithm and potential search terms with 6 Dr. Brinth earlier than January of 2023; 7 right? 8 A. Yeah, earlier than January '23, we 9 discussed. 10 Q. And had you exchanged written lists 11 of potential search terms that you -- 12 ATTORNEY BAUM: Hold it. I just 13 want to start objecting again. You 14 get to have communications she relied 15 upon for her opinions and with respect 16 to her opinions on the algorithm for 17 the disproportional reporting ratio. 18 We gave you the emails she relied upon 19 for those opinions. 20 BY ATTORNEY JULIEN: 21 Q. Doctor, I'm going to come back to 22 that, but first let me lay some foundation 23 here. 24 Dr. Brinth -- excuse me. 25 Dr. Tomljenovic, when did you start</p>	<p style="text-align: right;">Page 224</p> <p>1 in. 2 Q. I'm just trying to understand who 3 did what here. 4 A. We both work in parallel because I 5 reviewed hundreds and hundreds of POTS 6 reports in VAERS, and that's something I 7 explained at the start. And I was looking 8 at the MedDRA terms that were used; so I was 9 making a list based on that of what MedDRA 10 terms are used by the reporters to report 11 conditions like POTS. 12 So I had already a huge list of 13 relevant terms. But, again, as I said, I 14 like to consult with brains that are better 15 than my own, and I knew she was a clinician, 16 and I wanted her input to see if she had any 17 other terms she would add also based on her 18 clinical experience. 19 So that's basically -- yes, she had 20 her own list of terms, and we compared 21 notes, and there was a lot of overlap, and 22 we came with a big list of terms and then 23 made a selection of which terms to include 24 in the algorithm. 25 Q. So back in 2022 when you first</p>
<p style="text-align: right;">Page 223</p> <p>1 preparing the initial list of VAERS search 2 terms for purposes of a disproportionality 3 analysis offered in this case? 4 A. Again, I cannot -- I don't remember 5 the month at the top of my head, but it 6 would have been in 2022. But, again, all 7 the terms that we considered have been 8 provided in the attachments. 9 Q. Do you agree that you could not 10 have determined the preferred term -- search 11 terms to run in your disproportionality 12 analysis without consulting Dr. Brinth 13 because you're not a medical doctor? 14 A. Yes. 15 Q. Okay. And how -- tell me who 16 prepared the initial list -- 17 ATTORNEY BAUM: I just want to 18 object. That is inconsistent with 19 what her report says and is 20 inconsistent with what her work is 21 with respect to creating the 22 algorithm. We -- 23 BY ATTORNEY JULIEN: 24 Q. Go ahead. 25 A. I'm sorry. I don't want to jump</p>	<p style="text-align: right;">Page 225</p> <p>1 started corresponding with Dr. Brinth about 2 your -- the disproportionality analysis that 3 ultimately ends up in your report, did you 4 send her an initial list of search terms, or 5 did you simultaneously exchange a list? I'm 6 just trying to understand how this process 7 worked. 8 A. Yeah. From my memory, I mean, we 9 did exchange lists. Obviously, she had seen 10 mine. I have seen hers. 11 Q. And you exchanged lists by email? 12 A. Yes. And, again, I cannot remember 13 off the top of my head whether I actually 14 sent her a list or she sent me hers, and I 15 said: Oh, yes, I had those, but in addition 16 to these, I found these others. What do you 17 think? So I don't remember these exact 18 details. 19 Q. Did you make changes to the initial 20 list of VAERS searches that you proposed 21 based on your discussion with Dr. Brinth 22 back in 2022? 23 A. Well, yes, of course, because there 24 was a lot of other terms -- there was a 25 number of terms that got included in the</p>

<p style="text-align: right;">Page 226</p> <p>1 algorithm based on her input.  2 Q. So based on the input that you got  3 from Dr. Brinth back in 2022, a number of  4 terms got added to --  5 A. Correct.  6 Q. -- your algorithm?  7 A. Correct.  8 Q. Do you have those emails, those  9 email exchanges today?  10 A. I've given -- I've downloaded all  11 the emails from 2022 and selected the  12 reliance material and what I understood was  13 not protected by attorney privilege because  14 a lot of these communications I've cc'd with  15 Michael to keep him in the loop.  16 Q. Okay. But you do have your 2022  17 email communications with Dr. Brinth?  18 A. I do.  19 Q. Saved somewhere?  20 A. Yeah, I do. But a lot of this was  21 also done via Zoom, and I didn't record any  22 Zoom meetings.  23 Q. How many different iterations would  24 you say you have from your initial list of  25 VAERS terms that you initially discussed</p>	<p style="text-align: right;">Page 228</p> <p>1 this looks interesting. I'm picking up the  2 disproportionality signal similar to Rebecca  3 Chandler's. Let's see if we can improve  4 this algorithm. And that's why I consulted  5 Louise.  6 Q. So over the course of time based on  7 the edits that were made to your algorithm,  8 your signal got stronger? Did I say that  9 correctly?  10 A. Yeah. It never -- again, it never  11 disappeared. It was always a pretty high  12 signal. It wasn't like disproportionality  13 ratio of 2 or 1.9.  14 Q. Before arriving -- before arriving  15 at your final list of search terms in your  16 report, did you run any of those search  17 terms or search term combination in VAERS to  18 see how many adverse event reports you got?  19 A. Sorry. With my previous versions  20 of the algorithm, did I --  21 Q. Yes. From your initial list to  22 your final list that ends up --  23 A. Right.  24 Q. -- in your report --  25 A. Yeah.</p>
<p style="text-align: right;">Page 227</p> <p>1 with Dr. Brinth in 2022 to what we see in  2 your report in 2024?  3 A. How many different versions?  4 Q. Yes.  5 A. I cannot put the number. It wasn't  6 ten versions certainly. A few. But that's  7 the other thing that my primitive  8 versions -- I call them primitive or the  9 very first that I developed and all the  10 other subsequent versions -- they showed the  11 same results.  12 Obviously, when you add more terms,  13 you improve accuracy, but it didn't change  14 the outcome. It was never that the initial  15 algorithm found no signal and then we made  16 these changes and then all of a sudden  17 there's a signal. No, it's just the signal  18 got stronger, and, again, of course, I  19 believe it's more accurate when you include  20 all the relevant terms.  21 Q. So you said --  22 A. And that's the reason why I went  23 into this process because, again, based on  24 the knowledge I had, I constructed the  25 algorithm, ran it in VAERS. I said, well,</p>	<p style="text-align: right;">Page 229</p> <p>1 Q. -- did you take any of those draft  2 search terms prior to the final --  3 A. Right.  4 Q. -- and run them in VAERS?  5 A. Yes.  6 Q. And you ran them in VAERS to see  7 how many adverse event reports you got?  8 A. Well, I was looking -- doing  9 exactly the same thing, the  10 disproportionality analysis, so. . .  11 Q. So you were --  12 A. Again, I was using the previous  13 versions to do the disproportionality  14 analysis.  15 Q. So based on your prior -- strike  16 that.  17 You used -- between your initial  18 list of search terms back in 2022 up until  19 your final search terms in your report, you  20 ran those search terms in VAERS to see what  21 reporting odds ratio you got?  22 A. Correct. And, again, because it's  23 not -- certain terms -- and again, I go  24 about that in my report -- are more  25 frequently used than others. Like for</p>

<p style="text-align: right;">Page 230</p> <p>1 increased heart rate, it's palpitations, for  2 example. It's a very frequent term. Unlike  3 orthostatic heart rate response increased,  4 it's not a very frequent term.  5 The terms that are very frequently  6 used by reporters were already in my  7 algorithm. So refining it by adding a bunch  8 of other terms didn't really alter too much  9 the disproportionate ratios.  10 And, again, that's a similar  11 approach that -- similar approach that Merck  12 has done on the advice of the Danish  13 medicines health authorities because the  14 initial report -- sorry, the initial  15 algorithm that Merck used to capture --  16 well, the one based on just the symptoms  17 included only a limited number of symptoms.  18 And then the Danish health  19 medicines authority came to America and  20 said, well, you know, you didn't include all  21 these other relevant terms. And with the  22 algorithm as it is, we find a lot of the  23 Danish cases are not getting captured; so  24 you should include all these other  25 materials.</p>	<p style="text-align: right;">Page 232</p> <p>1 BY ATTORNEY JULIEN:  2 Q. Did your reporting odds ratio  3 increase based on edits that you received  4 and relied on from Dr. Brinth?  5 ATTORNEY BAUM: Same objection.  6 ATTORNEY JULIEN: This is directly  7 relevant. She said she relied on  8 Dr. Brinth. I'm entitled to explore  9 that.  10 ATTORNEY BAUM: Same objection.  11 ATTORNEY JULIEN: Okay. We'll  12 plan to come back since she said that.  13 One, we still haven't seen those 2022  14 communications, and she had earlier  15 communications about a fundamental  16 piece of her report.  17 ATTORNEY BAUM: You got the  18 materials that she relied upon.  19 You've got the -- you have the  20 reliance materials.  21 BY ATTORNEY JULIEN:  22 Q. If Merck played --  23 ATTORNEY JULIEN: So just to  24 clarify, are you instructing her not to  25 answer my question?</p>
<p style="text-align: right;">Page 231</p> <p>1 That was the whole purpose of my  2 exercise of examining hundreds and hundreds  3 and hundreds of various POTS reports to  4 select the terms that are being used to  5 report POTS; so I could include those terms  6 in the algorithm again, without being told  7 by the Danish health medicines agencies do  8 so because it's illogical that you would  9 take that approach.  10 You've got to look at the actual  11 reports. You've got to look at actual terms  12 that are used to report POTS and construct  13 your algorithm on the basis of those terms.  14 Q. Over the course of time from your  15 initial draft to the final draft in your  16 report, you tested different search terms  17 and considered different reporting odds  18 ratios; is that right?  19 ATTORNEY BAUM: I'm going to  20 object to the degree you're starting  21 to ask about and try to obtain  22 information on draft reports. I think  23 that those are protected from the  24 protocol.  25 ///</p>	<p style="text-align: right;">Page 233</p> <p>1 ATTORNEY BAUM: I think those are  2 protected communications.  3 ATTORNEY JULIEN: So we'll just --  4 we'll plan to come back and leave the  5 deposition open on that as well as the  6 earlier communications we did not  7 receive.  8 ATTORNEY BAUM: Maybe we can take  9 a break for a second to let me take a  10 look at something.  11 BY ATTORNEY JULIEN:  12 Q. Let me ask you this: If Merck  13 played around with data to find the best  14 results to support a hypothesis --  15 A. Yeah.  16 Q. -- would you consider that  17 scientific fraud?  18 A. For sure, but that's not what we  19 have done here because, again, it doesn't --  20 it doesn't change -- it doesn't change the  21 disproportionality ratio to that degree. It  22 was still there. This only made it more  23 accurate.  24 If you've seen my report, again,  25 I've done a number of changes to avoid</p>

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1 overinflating. I could have done that. I  
 2 could have just done what Bonaldo has done  
 3 and not do any age stratification, for  
 4 example, which hugely inflates the data.  
 5 I went to exclude the -- did  
 6 another secondary analysis to exclude the  
 7 years of stimulated reporting because I've  
 8 seen a huge signal in the 18- to 29-year-old  
 9 group that was pretty high. It was, I  
 10 think, reporting odds ratio 18, and when you  
 11 exclude those years, then it comes down. It  
 12 doesn't disappear. It's still big, but it's  
 13 not 18.  
 14 So I considered that data more  
 15 accurate. If I was one day to publish -- if  
 16 I was one day to write an article on that to  
 17 publish it, I would only include the data  
 18 that excludes the period of stimulated  
 19 reporting.  
 20 Whether it -- whether the ratio  
 21 increased or decreased, in order to answer  
 22 that question most accurately, I would have  
 23 to go back to the previous versions, but I  
 24 know for a fact that it didn't go, like,  
 25 from three to ten because, again, the

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1 most -- the most common terms, the ones that  
 2 are most frequently used to describe POTS,  
 3 they were already present. And those that  
 4 are rarely used, they were not as -- some of  
 5 them were absent, but they are not going to  
 6 change the outcome so much precisely because  
 7 they're very rarely used.  
 8 Q. Okay. We can take a quick break.  
 9 You said you wanted to.  
 10 A. To me, it was kind of a robust  
 11 thing whether you exclude certain terms or  
 12 include them. You kind of end up with the  
 13 same results which indicates they're not  
 14 artificial because these additional terms,  
 15 again, they do not make it or break it  
 16 because they are terms that may not be as  
 17 frequently used by the reporters.  
 18 And the whole point of -- again,  
 19 for me it would be manipulating -- or sorry,  
 20 it wouldn't be the most accurate science if  
 21 I submitted a report where it was just the  
 22 algorithm that I designed because, okay, I  
 23 am -- I don't pretend to be a clinician, but  
 24 I also am not going to say I don't know  
 25 anything about POTS because I've published

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1 on that, and I've -- for many, many years  
 2 I've been reading -- reading the literature  
 3 on POTS.  
 4 But, again, acknowledging my  
 5 limitation, I wanted to make it as accurate  
 6 as possible, and I think that was a  
 7 responsible thing to do, to consult a  
 8 clinician to improve my report. And if I  
 9 was, again, one day to publish this work, I  
 10 would not publish it with the prior version  
 11 of the algorithm because I consider this one  
 12 to be the most scientifically accurate  
 13 because it got input from a clinician.  
 14 Q. I do have some follow-up questions.  
 15 I'm not asking her about what you're  
 16 objecting to.  
 17 ATTORNEY BAUM: I thought we were  
 18 taking a break.  
 19 ATTORNEY JULIEN: Sure. We can  
 20 take a break.  
 21 THE VIDEOGRAPHER: We're now going  
 22 off the record, and the time is  
 23 3:13 p.m.  
 24 (Recess taken from 3:13 p.m. to  
 25 4:01 p.m.) 0

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1 THE VIDEOGRAPHER: We are now  
 2 going back on the record, and the time  
 3 is 4:01 p.m.  
 4 ATTORNEY JULIEN: We're back on  
 5 the record after a break.  
 6 We had some discussions off the  
 7 record, Mr. Baum and I. I understand  
 8 that additional documents are being  
 9 searched for, and once we receive  
 10 those, you know, we can decide where  
 11 to go next. But for now, we'll plan  
 12 to leave the deposition open until  
 13 we're sure we have all the  
 14 communications between Dr. Brinith and  
 15 Dr. Tomljenovic.  
 16 ATTORNEY BAUM: That she relied  
 17 upon.  
 18 ATTORNEY JULIEN: Well, we have a  
 19 different interpretation of that. We  
 20 believe we are entitled to receive all  
 21 the communications regarding the  
 22 search algorithm that they  
 23 collectively prepared in  
 24 Dr. Tomljenovic's report. I  
 25 understand that if there is an



<p style="text-align: right;">Page 238</p> <p>1 objection there, we will be seeking 2 those documents and are prepared to 3 raise it with the court. 4 ATTORNEY BAUM: Just also to 5 clarify, my understanding is that the 6 charts that you have began in 7 September of 2022 and is the chart 8 that Louise sent to Lucija, and that's 9 what they operated with. So it's not 10 accurate to say you only have 2023 11 stuff. You have 2022 stuff. But we 12 are looking into it to see if there's 13 additional exchanges of charts that 14 they worked from. 15 ATTORNEY JULIEN: Just to clarify, 16 what I said was that the earliest 17 emails that we had were from January 18 of 2023. Dr. Tomljenovic testified 19 that she exchanged emails with 20 Dr. Brinth earlier than that in 2022. 21 We do not have those. 22 I also understand that there were 23 ten or possibly more iterations of the 24 search terms -- 25 ATTORNEY BAUM: She said less than</p>	<p style="text-align: right;">Page 240</p> <p>1 Do you see that? 2 A. Yes. 3 Q. And the first email in the thread 4 is from you to Dr. Brinth, the email dated 5 January 15, 2023. It's on the first page. 6 A. It's that one, yeah. 7 Q. Your email address here is 8 Christthetruth1611@protonmail.com. 9 A. Correct. 10 Q. And you emailed Dr. Louise Brinth 11 at Louisebrinth@live.dk? 12 A. Correct. 13 Q. Now, looking at the email that you 14 wrote to Dr. Brinth, I want to look at the 15 second paragraph that starts with: Since we 16 discussed. 17 A. Yes. 18 Q. It says: Since we discussed to 19 limit the symptom-based searches to either 20 serious not recovered, or serious permanent 21 disability reports, then the six group 22 consequence of severe disease becomes 23 superfluous. It may be better indeed to 24 leave it out for the purpose of Madigan's 25 analysis. And then it goes on.</p>
<p style="text-align: right;">Page 239</p> <p>1 ten. 2 ATTORNEY JULIEN: Less than ten? 3 Okay. Well, it's definitely more than 4 the two that I see in what we have. 5 With that, we'll leave the deposition 6 open. We'll review whatever 7 additional documents we receive, but 8 we do believe we are entitled to any 9 communications regarding the 10 disproportionality analysis and the 11 search algorithm that they 12 collectively worked on and that serves 13 as a linchpin, underpin, to 14 Dr. Tomljenovic's opinions in this 15 case. We'll move on from there. 16 I want to mark as Exhibit 20 to 17 your deposition one of the emails that 18 we received. 19 (Exhibit Number 20 was marked for 20 identification.) 21 BY ATTORNEY JULIEN: 22 Q. Dr. Tomljenovic, this is an email 23 that I received yesterday from plaintiff's 24 counsel, and this email is dated January 16, 25 2023.</p>	<p style="text-align: right;">Page 241</p> <p>1 Did I read at least that portion 2 correctly? 3 A. Yes, you have. 4 Q. Who is Madigan? 5 ATTORNEY BAUM: I'm going to 6 object with respect to any query 7 regarding Madigan. 8 ATTORNEY JULIEN: Are you 9 instructing the witness not to answer? 10 ATTORNEY BAUM: Yeah, there's no 11 reliance relative to Madigan. It's 12 not something that we're -- you can 13 ask about all the analysis, but we're 14 not going to talk about Madigan. 15 ATTORNEY JULIEN: Okay. Just so 16 we're clear, the witness sends an 17 email to Dr. Brinth that says: It may 18 be better indeed to leave it out for 19 the purpose of Madigan's analysis when 20 referring to symptom-based searches, 21 and you're telling me you're 22 instructing her not to answer 23 questions about Madigan's analysis? 24 ATTORNEY BAUM: No. I'm saying -- 25 yes, we're not going to discuss</p>

<p style="text-align: right;">Page 242</p> <p>1 Madigan's analysis. That is not 2 something that Lucija had anything to 3 do with. 4 And there's people in the waiting 5 room again. 6 ATTORNEY JULIEN: Is that a basis 7 for an objection that she had nothing 8 to do with it when it's in her email 9 to Dr. Brinth? What basis are you 10 objecting on? Is it privilege? What 11 is the legal basis for your objection? 12 ATTORNEY BAUM: Let me see how I 13 want to do it. It's privileged. 14 ATTORNEY JULIEN: Attorney-client 15 privilege? We need to know because 16 this is something that we're going to 17 probably need to raise with the court, 18 but we don't even know what this is. 19 ATTORNEY BAUM: It's work product 20 privilege, and we can have discussions 21 with it at the next break. 22 ATTORNEY JULIEN: Okay. Let's 23 move on to the next paragraph. 24 BY ATTORNEY JULIEN: 25 Q. You said, looking at your</p>	<p style="text-align: right;">Page 244</p> <p>1 the completeness and quality of any of the 2 VAERS reports in your disproportionality 3 analysis? 4 A. No, we haven't. 5 Q. Did you or Dr. Brinth verify the 6 diagnoses in any of the VAERS reports in 7 your disproportionality analysis? 8 A. We haven't. 9 Q. Did either you or Dr. Brinth assess 10 any of the VAERS reports in your 11 disproportionality analysis for other 12 potential risk factors? 13 A. No. 14 Q. Did either you or Dr. Brinth 15 evaluate the interval between vaccination 16 and the adverse event in any of the VAERS 17 reports in your disproportionality analysis? 18 A. We haven't. 19 Q. Did you include litigation reports 20 in your disproportionality analysis? 21 A. They would have been picked up with 22 search term for POTS. 23 Q. The disproportionality -- 24 A. Not the disproportionality analysis 25 that ends with the reporting period of 2010</p>
<p style="text-align: right;">Page 243</p> <p>1 January 15, 2023, email to Dr. Brinth, you 2 say: Next, would you mind sending me the 3 list of PTs that are included in the motor 4 dysfunction group since this is one of the 5 six final groups and also the two separate 6 lists for, one, neurosensory and, two, sleep 7 problems/cognitive/affective. I'd like 8 these latter two for my own use and 9 reference and also would like to play with 10 it in VAERS to see what I get with various 11 combinations. 12 Did I read that correctly? 13 A. Yes, you have. 14 Q. Okay. You can set that document 15 aside. 16 And you wrote that to Dr. Brinth, 17 just to clarify? 18 A. Yes, I have. 19 Q. All right. Did you or Dr. Brinth 20 conduct a clinical review of any of the 21 VAERS reports in your disproportionality 22 analysis? 23 A. Not in the -- no, not in the 24 report. 25 Q. Did either you or Dr. Brinth assess</p>	<p style="text-align: right;">Page 245</p> <p>1 or 2012 because there was no litigation at 2 that point in time. 3 Q. Okay. But to clarify, the 4 disproportionality analysis that you 5 performed for any reports post-2012, let's 6 say, those would include lawsuits? 7 A. Those would include lawsuits, yeah. 8 Q. Okay. Has the disproportionality 9 analysis that you performed in your 10 litigation report been peer-reviewed or 11 published? 12 A. No, but we are planning to. 13 Q. At this time, has the 14 disproportionality analysis that you 15 prepared in your report been peer-reviewed 16 or published? 17 A. No. No, it hasn't. 18 Q. You prepared the disproportionality 19 analysis in your report for purposes of this 20 litigation; correct? 21 A. I have. 22 Q. Your report is certainly not the 23 first time that a disproportionality 24 analysis has been done on Gardasil VAERS 25 reports; right?</p>

<p style="text-align: right;">Page 246</p> <p>1 A. Yeah, definitely not the first 2 time. 3 Q. And the disproportionality analysis 4 that you performed in this case is also not 5 the first time that disproportionate 6 reporting has been found with respect to 7 Gardasil and POTS, POI, or autoimmune 8 disease; correct? 9 A. Correct. That's why I cited those 10 other references. 11 Q. In your report, you know that your 12 disproportionality analysis was consistent 13 with the number of peer-reviewed published 14 studies, and you cite Chandler, Zi, Tatang, 15 Gong, and Bonaldo; correct? 16 A. Correct. 17 Q. So in 2024, you performed a 18 disproportionality analysis and found a 19 signal with respect to Gardasil, which is 20 something that independent researchers and 21 FDA and CDC researchers had already done and 22 already published in peer-reviewed 23 literature; right? 24 A. Can you repeat that? 25 Q. In 2024, you performed a</p>	<p style="text-align: right;">Page 248</p> <p>1 BY ATTORNEY JULIEN: 2 Q. I've handed you what's been marked 3 as Exhibit 21 to your deposition, and this 4 is the Wodi 2023 publication entitled 5 Spontaneous Reports of Primary Ovarian 6 Insufficiency After Vaccination: A Review 7 of the Vaccine Adverse Event Reporting 8 System, (VAERS). 9 Do you see that? 10 A. Yes. 11 Q. Did you include Wodi 2023 anywhere 12 in your report or in your materials 13 considered list? 14 A. I haven't. 15 Q. And we see that Wodi is authored by 16 CDC and FDA researchers; correct? 17 A. Correct. 18 Q. If we look at the abstract and 19 specifically at the conclusions, the CDC and 20 FDA authors conclude: POI is rarely 21 reported to VAERS. Most reports contained 22 limited diagnostic information and were 23 submitted after published cases of POI 24 following HPV vaccination. Results of our 25 review do not suggest a safety concern.</p>
<p style="text-align: right;">Page 247</p> <p>1 disproportionality analysis and found a 2 signal with respect to Gardasil, which is 3 something that independent researchers and 4 FDA and CDC researchers had already done in 5 the peer-reviewed literature? 6 A. The -- well, yeah, the Arana, et 7 al. was one of the -- they are the CDC 8 researchers that published on POTS. Again, 9 based on VAERS data. 10 Q. Doctor, I'm handing you -- 11 A. Again, there's something that's 12 relevant to this that I'd like to clarify 13 with the paragraph that you read. 14 Q. Oh, your lawyer can ask you those 15 follow-up questions if he wants. 16 ATTORNEY BAUM: Wait a second. If 17 she wants to complete her answer, let 18 her complete her answer. 19 ATTORNEY JULIEN: We moved on, 20 like, several minutes later, but I 21 think your lawyer will have the 22 opportunity to ask you questions on 23 direct, if he'd like. 24 (Exhibit Number 21 was marked for 25 identification.)</p>	<p style="text-align: right;">Page 249</p> <p>1 Did I read that correctly? 2 A. Correct. 3 Q. I'd like to look at -- 4 A. And, again, this is similar to what 5 Shimabukuro or Arana. Arana dealt with -- 6 did with respect to POTS. Again, here they 7 were applying the diagnostic criteria for 8 POI, and this is something that Arana, 9 et al. had done with respect to POTS; so it 10 ended up out of 129 that they identified 11 with the search term POTS, they ended up 12 with only -- I believe it's about 29 that 13 met the diagnostic criteria. 14 And, again, something similar was 15 done here. It's inappropriate to exclude 16 all the rest because, again, of the 17 acknowledged limitations that these reports 18 are -- rarely contain all the diagnostic 19 detail that would enable someone to tick the 20 box yes, this meets all the diagnostic 21 criteria. 22 And this is something, again, that 23 Ralph Edwards, the former director of the 24 WHO pharmacovigilance center, Uppsala 25 objected to and also the GSK researchers</p>

<p style="text-align: right;">Page 250</p> <p>1 Mahaux, et al. that I cited in part 5 of my  2 report, that it's inappropriate to exclude  3 and just dismiss all reports that contain  4 limited information, and there should be  5 always some sensitivity analysis that  6 considers the worst-case scenario or  7 includes them in the analysis.  8 Q. So it's your opinion that the CDC  9 and FDA researchers, again, got it wrong  10 when it came to reviewing the data in Wodi  11 2023?  12 A. Well, according to  13 pharmacovigilance experts, yes, they got it  14 wrong.  15 Q. Let's move on to the clinical  16 review of report, Section 2.2 on page 2 of  17 this publication.  18 A. Where is that?  19 Q. Page 2, Section 2.2 is on the  20 right. Do you see that it says: Each  21 report, including any available medical  22 records, was manually reviewed by CDC  23 physicians?  24 A. Correct, yeah, I see that.  25 Q. If we go to the end of that same</p>	<p style="text-align: right;">Page 252</p> <p>1 Q. Okay. So does that mean that you  2 did not actually look at the medical records  3 for any of the VAERS reports in the  4 disproportionality analysis that you  5 conducted?  6 A. Well, we couldn't have looked at  7 something that was not available to us.  8 Q. And then if we go to the page -- if  9 we go to page 6 -- or excuse me, actually  10 page 5 of this publication, Wodi 2023, I  11 wanted to direct your attention to the last  12 full paragraph on the right side.  13 A. Okay, yeah.  14 Q. So this says -- Wodi 2023 says: To  15 our knowledge, there are six published case  16 reports of POI onset after vaccination, and  17 all were reported in adolescents and young  18 adults after receiving 4vHPV.  19 Did I read that correctly?  20 A. Yes.  21 Q. And 4vHPV refers to Gardasil 9?  22 A. Sorry. It just says 4 --  23 Gardasil 4; right?  24 Q. Excuse me. I'm sorry. 4vHPV in  25 the sentence I just read refers to</p>
<p style="text-align: right;">Page 251</p> <p>1 section, it says: An FDA physician who is  2 board-certified in gynecology conducted an  3 independent review of all POI cases  4 identified by CDC physicians to adjudicate  5 if each POI case was a confirmed POI,  6 possible POI, or not POI using the  7 guidelines above.  8 A. Correct.  9 Q. Did I read that correctly?  10 We already established neither you  11 nor Dr. Brinth actually did a clinical  12 review of any of the VAERS reports in your  13 disproportionality analysis; correct?  14 A. Correct.  15 Q. And you couldn't perform a clinical  16 review because you're not a medical doctor;  17 correct?  18 A. Correct.  19 Q. Neither you nor Dr. Brinth went and  20 looked at the underlying available medical  21 records for any of the VAERS reports in the  22 disproportionality analysis that you  23 conducted in this case; correct?  24 A. Well, we would have not had access  25 to medical records.</p>	<p style="text-align: right;">Page 253</p> <p>1 Gardasil 4, quadrivalent Gardasil?  2 A. Yes.  3 Q. So the CDC and FDA researchers in  4 Wodi 2023 noted here that they were aware of  5 the observation in your expert report that  6 all published case reports of POI after  7 vaccination were reported after receiving  8 Gardasil; correct?  9 A. Correct.  10 Q. And then if we go to the last  11 sentence, the last full sentence that starts  12 with: Similar to the study.  13 Do you see that?  14 A. Yeah.  15 Q. Similar to the study by Gong,  16 et al. data mining in our study observed  17 disproportionate reporting of POI-related  18 PTs in VAERS compared with other vaccines.  19 Did I read that correctly?  20 A. Yes, correct.  21 Q. So both Gong and Wodi found  22 disproportionate reporting of POI-related  23 PTs compared to other vaccines before you  24 did as an expert in this litigation; right?  25 A. Correct.</p>

<p style="text-align: right;">Page 254</p> <p>1 Q. And then if we continue on with  2 although -- or excuse me. If we go to  3 page 6 of Wodi -- I'm sorry. Still on the  4 same page, page 5. Page 5 of Wodi, last  5 full sentence that reads: However, compared  6 to Gong, et al., our study included clinical  7 review of VAERS reports and medical records,  8 if available.  9 Did I read that correctly?  10 A. Yes.  11 Q. If we go on to page 6, the last  12 word is "although" on page 5 and then onto  13 the page 6, Wodi 2023 states: Although  14 majority of reports identified in our study  15 noted receipt of HPV vaccine with or without  16 other vaccines, clinical review determined  17 that the AEs contained in most reports were  18 either pregnancy related, such as a  19 menorrhea due to pregnant, hearsay reports,  20 or also noted the presence of other  21 conditions that caused symptoms similar to  22 POI, such as pituitary pathology and  23 polycystic ovarian syndrome.  24 Did I read that correctly?  25 A. Correct.</p>	<p style="text-align: right;">Page 256</p> <p>1 BY ATTORNEY JULIEN:  2 Q. I'm handing you what I've marked as  3 Exhibit 22 to your deposition. And this is  4 Tatang -- excuse me. I think I might have  5 given you mine.  6 ATTORNEY BAUM: I wrote on it.  7 ATTORNEY JULIEN: It's okay.  8 BY ATTORNEY JULIEN:  9 Q. This is -- Exhibit 22 is Tatang --  10 A. Yes.  11 Q. -- 2021; right?  12 Let's look at the conclusion of  13 Tatang 2021, which is on page 88. The  14 conclusion of Tatang 2021 states: This  15 study has detected a strong  16 disproportionality in the reporting of POF  17 events after HPV vaccine in VAERS.  18 Did I read that correctly?  19 A. Yes.  20 Q. If we go back to the discussion  21 section on page 85 of Tatang, the discussion  22 section of Tatang 2021 states: Using the  23 U.S. VAERS data, a high disproportionality  24 in the reports was found, which suggests the  25 presence of a potential signal of an</p>
<p style="text-align: right;">Page 255</p> <p>1 Q. You don't know how many of the  2 VAERS reports that you included in your  3 disproportionality analysis included these  4 types of alternative explanations; correct?  5 A. Correct.  6 Q. And then -- strike that.  7 So to wrap up Wodi 2023, CDC and  8 FDA researchers published in peer-reviewed  9 literature that they found disproportionate  10 reporting of POI-related PTs in VAERS  11 compared to other vaccines, yet concluded  12 that their results do not suggest a safety  13 concern; correct?  14 A. Correct.  15 Q. I'd next like to mark Exhibit 22 to  16 your deposition.  17 (Exhibit Number 22 was marked for  18 identification.)  19 ATTORNEY BAUM: What was 20?  20 ATTORNEY JULIEN: I thought it  21 was --  22 ATTORNEY BAUM: Never mind. I got  23 it.  24 THE WITNESS: 20 is the email.  25 ///</p>	<p style="text-align: right;">Page 257</p> <p>1 association between HPV vaccine and POF  2 events.  3 Did I read that correctly?  4 A. Correct.  5 Q. So the Tatang 2021 authors that you  6 cite in your report determined that the  7 strong disproportionality of POF events  8 after HPV vaccination that they observed  9 suggests the presence of a potential signal;  10 right?  11 A. Correct. In their conclusion on  12 page 5, they say that these findings, along  13 with other sources of evidence, such as the  14 published case series and the biological  15 plausibility, lends support to the presence  16 of a safety signal.  17 And the public has been reinsured  18 by health authorities of the absence of a  19 causal relationship between HPV vaccine and  20 POF, not only based on safety studies that  21 lack data on the varying dysfunction, but  22 also those studies with sources of data that  23 were insufficiently powered to detect events  24 of declining ovarian function.  25 So, again, it's the totality of the</p>

65 (Pages 254 - 257)



<p style="text-align: right;">Page 258</p> <p>1 evidence that they are also considering  2 rather than just the disproportionality  3 analysis and also the fact that those  4 studies that are being relied on to claim  5 absence of risks, again, have their -- have  6 some significant limitations.  7 Q. And if we go to the conclusion in  8 the abstract section of Tatang on the first  9 page, it again says: Our study suggests the  10 presence of a potential safety signal of POF  11 associated with HPV vaccination which may  12 only be partially attributed to notoriety  13 bias; correct?  14 A. Yes, correct, because they've done  15 the same thing by excluding those years  16 after the publication of reports, which  17 might have stimulated increased reporting.  18 So, again, when they excluded those years,  19 the signal remained, which is pretty much  20 the same what I did to reduce any potential  21 bias that might have occurred due to  22 stimulated reporting and with the same  23 results.  24 Again, I didn't hide the signal  25 of -- one of the signals for peripheral</p>	<p style="text-align: right;">Page 260</p> <p>1 A. Well, again, I -- the reason why  2 I'm mentioning it is to explain my position  3 on research fraud. And it's not my  4 intention to cast -- to bring that person  5 into trouble, but it was my first  6 post-doctoral position, and that was in  7 Australia.  8 Q. Was that at the dentist -- the  9 school of dentistry, or what are you  10 referring to?  11 A. It was medical school, yeah.  12 School of Medicine and Dentistry at James  13 Cook University.  14 Q. Okay. Can you clarify what you  15 mean by that?  16 A. Yeah, I can. So we were actually  17 working on animal models of aortic aneurysm.  18 Or you can induce aortic aneurysm by  19 infusing them with angiotensin II, and these  20 mice were also fed high-fat diet.  21 And what my supervisor was  22 interested in is to see whether drugs that  23 are already approved for other conditions  24 might improve the outcome of aortic aneurysm  25 because the only treatment for aortic</p>
<p style="text-align: right;">Page 259</p> <p>1 neuropathy, with the exclusion of  2 Guillain-Barre syndrome, disappeared in the  3 18- to 29-year-old group after exclusion of  4 the data from years 2013 to 2016.  5 So I don't believe it's -- well, I  6 doubt that it's a real signal, that it's  7 probably likely might have been an artifact  8 of stimulated reporting. Just to say that  9 I'm -- now, I am against fraud. And the  10 reason why I'm sitting here is because in my  11 early post-doc career, I was actually asked  12 to doctor data to make the safety of the  13 drug look better than it is, and I quit my  14 job.  15 And at my point in career, that was  16 considered career suicide, but I didn't  17 spend all the hours and -- long hours and  18 effort on getting my degree so that I would  19 now make my career by lying and  20 manufacturing data. Like, no.  21 Q. Okay. So just to break that down a  22 bit and then I do want to wrap up the  23 discussion of Tatang 2021, who asked you to  24 doctor data? Which job were you -- which  25 job were you referring to?</p>	<p style="text-align: right;">Page 261</p> <p>1 aneurysm is surgery.  2 So I think it was a noble goal to  3 see if there was something other than  4 surgery that could help. And so we were  5 treating these mice with statins,  6 simvastatin and pioglitazone. And there  7 were placebo mice that were just given  8 water.  9 And more mice were dying on the  10 statin group, and then I was told to  11 basically ignore the dead mice from the  12 statistic because -- from the statistical  13 analysis because the explanation is it's not  14 going to look good on the drug.  15 Q. Okay.  16 A. And yes, I quit my job after that  17 because I didn't want to have any part of  18 that.  19 Q. All right. Thanks for clarifying  20 that.  21 A. Again, that's what -- again, this  22 is what made me being skeptical towards a  23 lot of things, and I always -- you know, I  24 don't -- I don't -- okay, it's maybe just  25 me, but because of that experience, if FDA</p>

<p style="text-align: right;">Page 262</p> <p>1 or CDC or whoever says this is safe and  2 effective, I want to see on what basis  3 they're saying that rather than just  4 accepting because they said it.  5 Again, they've been wrong before  6 too. So that's again --  7 Q. Okay. I just want to move through  8 the rest of the study that you cited here.  9 A. Yeah, sure.  10 Q. The other disproportionality  11 analyses.  12 So just to clarify, the Tatang 2021  13 authors did not conclude there was an  14 increased risk of POI with Gardasil;  15 correct?  16 A. So they concluded there was not an  17 increased --  18 Q. The Tatang 2021 authors did not  19 conclude that there was an increased risk of  20 POI with Gardasil compared to unvaccinated  21 individuals?  22 ATTORNEY BAUM: That -- what are  23 you reading from?  24 ATTORNEY JULIEN: I wasn't aware I  25 had to be reading from something.</p>	<p style="text-align: right;">Page 264</p> <p>1 of course, express strong criticism of the  2 EMA conclusion and stated that their own  3 analysis of VigiBase was dismissed by EMEA  4 on unjustified basis.  5 Q. Okay. We'll get to that later.  6 Your report said that you used data --  7 strike that.  8 You restricted your  9 disproportionality analysis to reports for  10 patients ages 6 through 29; right?  11 A. Correct.  12 Q. You acknowledge that Gardasil is  13 not indicated for individuals under the age  14 of 9; correct?  15 A. Yes, but VAERS does not allow you  16 to refine the age categories because it's --  17 it only gives you the option to select age  18 group 6 to 17 -- 0 to 6, 6 to 17, 18 to 29,  19 30 to 39. So it's what I could work with.  20 If I could have refined it, I would have  21 definitely restricted it to 9.  22 (Exhibit Number 23 was marked for  23 identification.)  24 BY ATTORNEY JULIEN:  25 Q. Doctor, I'm handing you what's been</p>
<p style="text-align: right;">Page 263</p> <p>1 THE WITNESS: Yeah, it was a VAERS  2 analysis. So obviously, there was no  3 unvaccinated population. Again, it  4 was a disproportionality analysis.  5 What they concluded is that there is a  6 presence of a potential signal, which  7 may only be partly attributed to  8 notoriety bias.  9 And so what they stated here is  10 that the notoriety bias cannot explain  11 away or cannot entirely account for  12 the signal.  13 BY ATTORNEY JULIEN:  14 Q. And the Tatang 2021 authors --  15 strike that.  16 None of the authors of Chandler  17 2017, Zi 2022, Tatang 2021, Gong 2021, or  18 Bonaldo 2019 concluded that Gardasil causes  19 POTS, CFS, or POI; correct?  20 A. They didn't -- they didn't -- yes.  21 Well, they didn't say it conclusively causes  22 it because, again, they're aware of  23 limitations of passive surveillance  24 databases.  25 But they all, especially Chandler,</p>	<p style="text-align: right;">Page 265</p> <p>1 marked as Exhibit 23 to your deposition.  2 Just to clarify, you used the Wonder online  3 search tool to conduct your  4 disproportionality analysis?  5 A. Correct.  6 Q. I've handed you what's been marked  7 as Exhibit 23, and this is the  8 VAERS.HHS.gov/data website.  9 Do you see that?  10 A. Yes, I do.  11 Q. And the VAERS website includes two  12 options for accessing VAERS data; correct?  13 Do you see that? It says: VAERS  14 data is available in two ways.  15 A. Right.  16 Q. And one way, which is what you  17 used, is to search CDC Wonder?  18 A. Search CDC Wonder, yeah.  19 Q. The other way to access VAERS data  20 is to download raw data for import into a  21 database, spreadsheet, or text editing  22 program, and do you see the link there that  23 says download VAERS data?  24 A. Yes, I do.  25 Q. So you know that it's possible to</p>

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1 download the raw VAERS data files and import  
 2 them into a program or a spreadsheet; right?  
 3 A. Yes. Well, I've never done it  
 4 myself.  
 5 Q. Have you ever used a software like  
 6 R or Stata or SAS to conduct your research?  
 7 A. I did.  
 8 Q. So you -- but you did not use those  
 9 statistical software tools to reach your  
 10 disproportionality-related opinions in this  
 11 case; correct?  
 12 A. No, I haven't, no.  
 13 Q. Okay. Would it surprise you to  
 14 learn that if you downloaded the raw data,  
 15 you could filter for age?  
 16 A. If the age is stated, then yes.  
 17 Q. So to clarify, before your  
 18 deposition today, you -- did you, or did you  
 19 not know that you can download the raw data  
 20 and filter the reports for age?  
 21 A. I didn't specifically know that you  
 22 could because all I ever work was the  
 23 standard online version. The CDC Wonder  
 24 where you -- yeah, where you search CDC  
 25 Wonder.

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1 Q. Okay. So would it surprise you to  
 2 learn that you can, in fact, exclude 6-, 7-,  
 3 and 8-year-olds from your disproportionality  
 4 analysis using free tools like R to filter  
 5 out the raw VAERS data? Would it surprise  
 6 you to learn that today?  
 7 A. No, it doesn't particularly  
 8 surprise me.  
 9 Q. Okay. And because you did not  
 10 actually look at the raw VAERS data, you  
 11 cannot tell me that your results in your  
 12 disproportionality analysis will remain  
 13 statistically significant if you remove  
 14 6-year-olds, 7-year-olds, and 8-year-olds  
 15 from your analysis; correct?  
 16 A. I believe they would remain  
 17 because, again, the 18- to 29-year-old  
 18 remains significant for most of the signals  
 19 that are of our interest. So I don't think  
 20 the 6- to 17-year-old signal would disappear  
 21 just by filtering out the 6-, 7-, and the  
 22 9-year-olds. But I will be doing that.  
 23 Q. You'll do it -- you'll filter out  
 24 6-, 7-, and 8-year-olds for the first time  
 25 after your deposition today?

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1 A. Well, I will.  
 2 Q. Okay. But because you didn't  
 3 actually test whether your ROR remains  
 4 statistically significant, once you remove  
 5 6- to 8-year-olds, you can't tell me for  
 6 certain, as you sit here today, that your  
 7 results would remain statistically  
 8 significant; correct?  
 9 A. No, I cannot tell you for certain,  
 10 but I find it highly unlikely that they  
 11 wouldn't.  
 12 Q. Okay. So -- and you did not test  
 13 or confirm whether your results would change  
 14 if you excluded 6-, 7-, and 8-year-olds in  
 15 forming your opinions in this case; correct?  
 16 A. Sorry. Can you repeat that?  
 17 Q. You did not test or confirm whether  
 18 your results would change if you excluded  
 19 6-, 7-, and 8-year-olds in forming your  
 20 opinions in this case; correct?  
 21 A. Yes, I didn't test or confirm that.  
 22 Q. You talked a bit about -- you  
 23 talked a bit about the time frame and your  
 24 efforts to exclude events, for example, from  
 25 2013 to 2016 related to media stimulated

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1 reporting of AEs related to Gardasil.  
 2 A. Correct.  
 3 (Exhibit Number 24 was marked for  
 4 identification.)  
 5 BY ATTORNEY JULIEN:  
 6 Q. I'm handing you what's been marked  
 7 as Exhibit 24 to your deposition.  
 8 Exhibit 24 is an article that you  
 9 coauthored with Christopher Shaw entitled  
 10 Too Fast or Not Too Fast: The FDA's  
 11 Approval of Merck's HPV Vaccine Gardasil; is  
 12 that correct?  
 13 A. Correct.  
 14 Q. And you published this in the fall  
 15 of 2012?  
 16 A. Yes.  
 17 Q. And you did not cite this  
 18 publication in your report; correct?  
 19 A. I thought I did, but I guess I  
 20 didn't. I mean, I would need to --  
 21 ATTORNEY BAUM: Maybe check.  
 22 THE WITNESS: Yeah.  
 23 BY ATTORNEY JULIEN:  
 24 Q. I want to look at the first  
 25 sentence under the introduction of this 2012

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1 publication. You wrote: There are not many  
 2 public health issues where views are as  
 3 extremely polarized as those concerning  
 4 vaccination policies. Ever since its  
 5 fast-track approval by the U.S. Food and  
 6 Drug Administration, FDA, in 2006, Merck's  
 7 human papillomavirus, HPV, vaccine Gardasil  
 8 has been sparking controversy.  
 9 Did I read that correctly?  
 10 A. Yes.  
 11 Q. And this was a publication from  
 12 2012; right?  
 13 A. Yes. It's on my CV list.  
 14 Q. Yes. That's where I found it. I  
 15 found it from your CV.  
 16 I'm now marking Exhibit 25 to your  
 17 deposition.  
 18 (Exhibit Number 25 was marked for  
 19 identification.)  
 20 BY ATTORNEY JULIEN:  
 21 Q. Exhibit 25 is a 2014 publication by  
 22 Jan Eberth and others entitled: The role of  
 23 media and the internet on vaccine adverse  
 24 event reporting: A case study of human  
 25 papillomavirus vaccination.

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1 Did I read that correctly?  
 2 A. Yes.  
 3 Q. Did you cite this report -- this  
 4 publication anywhere in your report?  
 5 A. No, not this one.  
 6 Q. And you also did not include this  
 7 publication in your materials considered  
 8 list?  
 9 A. No.  
 10 Q. I'd like to read the purpose of  
 11 Eberth 2014. In the abstract, it says:  
 12 This study aimed to determine the temporal  
 13 association of print media coverage and  
 14 internet search activity with adverse event  
 15 reports -- excuse me, let me restart.  
 16 Strike that.  
 17 Purpose: This study aimed to  
 18 determine the temporal association of print  
 19 media coverage and internet search activity  
 20 with adverse events reports associated with  
 21 the human papillomavirus vaccine Gardasil,  
 22 HPV4, and the meningitis vaccine, Menactra,  
 23 MNQ, among United States adolescents.  
 24 Did I read that correctly?  
 25 A. Yes.

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1 Q. If we look at the results of the  
 2 abstract section, it says -- Eberth 2014  
 3 says: Compared with MNQ, Menactra, HPV4  
 4 Gardasil had more coverage in the print  
 5 media and internet search activity, which  
 6 corresponded with the frequency of VAERS  
 7 events. In February of 2007, we observed a  
 8 spike in print media for HPV4 although media  
 9 coverage waned, internet search activity  
 10 remained stable and predicted the rise in  
 11 HPV4 associated VAERS reports.  
 12 Did I read that correctly?  
 13 A. Yes. And, again, it's important --  
 14 normally there is -- it is expected to see  
 15 increased reporting following the launch of  
 16 a new product, especially if it's -- if that  
 17 product is -- well, the launch of the  
 18 product is accompanied by much publicity.  
 19 But it's important to note that  
 20 what kind of events will be reported or  
 21 subject of disproportionate reporting.  
 22 Again, POTS was not on the radar. By 2010,  
 23 there was only one report of POTS, a case  
 24 report in the published literature. So that  
 25 would not have sparked some massive

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1 reporting. This is, again, an  
 2 underdiagnosed condition, very rarely  
 3 recognized.  
 4 Q. I just want to break that down.  
 5 What do you mean when you say POTS was not  
 6 on the radar in 2010?  
 7 A. It was not in the media that there  
 8 was any association between the HPV vaccine  
 9 and POTS. There would be no reason -- there  
 10 could not have been stimulated reporting for  
 11 POTS when it was not even known that HPV  
 12 vaccine could trigger POTS, or it was not  
 13 suspected that HPV vaccine could trigger  
 14 POTS because, again, there was no reports in  
 15 the literature before 2010.  
 16 Q. But your disproportionality  
 17 analysis didn't just look at POTS; right?  
 18 You looked at a number of symptoms; correct?  
 19 A. Yes. And, again, that's why I  
 20 included things like GBS, anaphylaxis that  
 21 I -- again, based on literature, I didn't  
 22 think there was a particular signal in  
 23 Gardasil, just to exclude the possibility of  
 24 that, that -- well, there's a signal for  
 25 just everything you look at. Gardasil, that

<p style="text-align: right;">Page 274</p> <p>1 would certainly raise red flags, but that  2 ended up not being the case.  3 Q. So in 2010, it was not suspected  4 that HPV vaccination could trigger POTS? Is  5 that what you're saying?  6 A. There was only one report, one case  7 report. You don't make a big deal out of  8 one case report.  9 Q. So it was or it was not suspected  10 that HPV vaccination could trigger POTS in  11 2010?  12 A. Again, there was one case report.  13 So one case report would have not provoked a  14 massive media stimulated reporting of POTS.  15 That likely happened 2013 when, again, due  16 to Danish reports that were -- many reports  17 were reported by Jesper and Louise and  18 then -- it was then that POTS became more  19 widely known as a possible adverse event  20 following HPV vaccination.  21 And it's then when the Danish  22 health medicines authority started looking  23 into it; so that would have raised -- and it  24 did raise media interest and media  25 publicity.</p>	<p style="text-align: right;">Page 276</p> <p>1 A. Yes, it is.  2 Q. If we look at the discussion  3 section on page 293 -- actually, strike  4 that. We can set it aside.  5 I want to talk about your -- strike  6 that.  7 You excluded any VAERS reports from  8 any COVID vaccines in your analysis;  9 correct?  10 A. Correct.  11 Q. You excluded COVID vaccine-related  12 reports from your disproportionality  13 analysis because you claimed that they were  14 primarily given to those over the age of 60  15 in part?  16 A. In part, in large part. And also  17 because there has been a lot of reports on  18 POTS and chronic fatigue with COVID vaccines  19 as well. Again, they only came on the  20 market in -- on the market -- they only  21 started being administered early 2021.  22 So for most of the lifecycle of  23 Gardasil, they were not -- they were not  24 included. They were not -- they were not  25 relevant, again, because Gardasil was</p>
<p style="text-align: right;">Page 275</p> <p>1 Q. So in 2010 -- strike that.  2 Before 2013, is it your  3 understanding that there were no data to  4 support that HPV vaccination could trigger  5 POTS?  6 ATTORNEY BAUM: Objection.  7 Mischaracterizes her testimony.  8 THE WITNESS: Yeah, I wouldn't say  9 that before 2013, there were no data,  10 but there was not -- there was no  11 increased media coverage that would  12 influence the frequency of reporting.  13 BY ATTORNEY JULIEN:  14 Q. Okay. And we established that your  15 disproportionality analysis is not just  16 about POTS. It's about a number of symptoms  17 including menstrual irregularities, for  18 example?  19 A. Correct.  20 Q. Now, if we look at Ebert 2014 and  21 go to the discussion section, I do want to  22 clarify one thing. Actually, take a step  23 back.  24 Is today your first time reviewing  25 Ebert 2014?</p>	<p style="text-align: right;">Page 277</p> <p>1 licensed in 2006, and we had, like -- until  2 2021, there were no COVID vaccines in the  3 schedule, so. . .  4 Q. So you excluded VAERS reports from  5 any COVID vaccine because you suspected that  6 COVID-19 vaccines are associated with a  7 disproportionality high number of POTS and  8 CFS reports; right?  9 ATTORNEY BAUM: Objection. That  10 misstates her testimony.  11 THE WITNESS: I didn't use it to  12 commit fraud, if that's what you're  13 implying. And the fact is, again,  14 for -- COVID vaccine did not exist in  15 2006, 2007, all the way up to 2021.  16 When you are asking me about prior  17 disproportionality analysis that I was  18 doing, I was actually doing  19 disproportionality analysis even up to  20 2021. The signals were still there.  21 And the disproportionality signals  22 were still there in 2010, 2012, 2015.  23 So that's before there was any  24 COVID vaccines administered to anyone,  25 so excluding that would not have</p>

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<p style="text-align: right;">Page 278</p> <p>1 impacted that. It would have only 2 taken some of the data the last four 3 years. 4 Again, the disproportionality 5 signals for POTS, for menstrual 6 abnormalities, for chronic fatigue 7 syndrome were already there by -- long 8 before COVID vaccines came on the 9 scene. So it didn't skew those 10 results. 11 BY ATTORNEY JULIEN: 12 Q. So then why exclude it? Why 13 exclude COVID vaccine reports if you're 14 saying it wouldn't make a difference? 15 A. They wouldn't make that difference. 16 They might have -- and again, I don't know 17 because I haven't done the analysis. They 18 were, for the most -- well, in the 19 beginning, they were predominantly 20 administered to the elderly, so, again, you 21 wouldn't have that many COVID vaccines given 22 to teenagers. So they would not have skewed 23 much. They certainly wouldn't have gotten 24 rid of the signal because, again, the signal 25 was there in 2015, 2012, 2010.</p>	<p style="text-align: right;">Page 280</p> <p>1 Q. You agree that if you had included 2 COVID vaccine-related reports, there would 3 be additional non-HPV vaccine AE reports of 4 POTS and chronic fatigue; right? 5 A. Very likely. I know there have 6 been reports of chronic fatigue and POTS in 7 COVID infection and COVID vaccines. 8 Q. And then I want to ask some 9 questions about your POI-related searches. 10 You -- one of the POI-related 11 searches that you ran was heavy menstrual 12 bleeding; is that right? 13 A. No, that's with other menstrual 14 abnormalities. 15 Q. Okay. So you ran a search for 16 heavy menstrual bleeding related to other 17 menstrual abnormalities in your 18 disproportionality analysis? 19 A. Correct. 20 Q. And we can agree that if you have 21 heavy menstrual bleeding, that's -- 22 A. No. 23 Q. -- not POI? 24 A. No, that's the opposite. 25 Q. Okay. And there are -- I know</p>
<p style="text-align: right;">Page 279</p> <p>1 Q. You're aware that COVID vaccines 2 have been indicated for children 5 and up 3 since 2020, 2021? 4 A. Not that early, to my knowledge. 5 That was only -- and certainly it would not 6 have been across the board. As far as I 7 know, they have only been indicated for 8 children somewhat later in the process, not 9 2021. 10 Q. Okay. 11 A. Firstly, it was elderly people and 12 medical staff. And then when the mandates 13 came, most others but not children. Even 14 then for teenagers, at least I know in 15 Canada because I was there, it was for those 16 that wanted participating in sports, but it 17 wasn't kind of universally mandated for 18 teenagers. 19 Q. Did you test any of your 20 algorithms, including the COVID-19 vaccine? 21 A. No, but I'm happy to do it. Again, 22 I'm certain it's not going to change 23 anything because, as I said, the signals 24 were there before the COVID vaccines were on 25 the market. Long, long before.</p>	<p style="text-align: right;">Page 281</p> <p>1 you're not a medical doctor, but there are a 2 number of reasons why someone may have 3 menstrual irregularities that have nothing 4 to do with Gardasil; right? 5 A. Yes, of course. 6 Q. For example, pregnancy is one 7 reason why a woman might stop having a 8 menstrual cycle? 9 A. Correct. I don't think you would 10 have many pregnant women in the 6- to 11 17-year-old group to that extent, but it's 12 possible. Of course, I'm not denying that 13 pregnancy would manifest amenorrhea. 14 Q. And you also would not have reports 15 of POI in someone under the age of, I don't 16 know, 12? 17 A. Well, no, you wouldn't. 18 Q. Okay. Did Dr. Brinth help you to 19 choose the POI-related searches in your 20 algorithm? 21 A. No, no. I consulted on -- but it 22 was not over email. I consulted about 23 certain things about POI with Dr. Harvey 24 Ward, who is one of the authors of the case 25 reports of -- on primary ovarian failure</p>

<p style="text-align: right;">Page 282</p> <p>1 because he's an OB/GYN and a fertility 2 specialist. 3 Q. Did you mention in your report that 4 you consulted with Dr. Harvey Ward? 5 A. I didn't mention that I consulted 6 because it was -- well, let me go back. 7 I actually asked him about -- yes, 8 I asked him -- I didn't ask him about the 9 terms because the terms I picked up from the 10 research literature on diagnostic criteria 11 for primary ovarian failure and the symptoms 12 from official sources. 13 But I did ask him about things that 14 I didn't end up including in this report, 15 particularly about his criticism or -- his 16 opinion on the animal studies, the rat 17 fertility studies that Merck had conducted. 18 I didn't end up discussing those in my 19 report, but I asked him because simply I 20 wanted to double-check if he -- obviously, I 21 identified certain things that I thought 22 were limitations in this study, such as that 23 they didn't follow rats over more than one 24 reproductive cycle, and I wanted to ask him 25 if he agrees with that, if that's a</p>	<p style="text-align: right;">Page 284</p> <p>1 ATTORNEY BAUM: I'm saying that 2 you're starting to go into areas that 3 are covered by the protocol, and she 4 did not -- you're asking for things 5 that were not things she relied upon. 6 BY ATTORNEY JULIEN: 7 Q. Did you, or did you not speak with 8 Dr. Ward regarding the POI and menstrual 9 irregularity search terms that you used in 10 your disproportionality analysis? 11 A. No, not the PO -- not with Harvey 12 Ward. I only discussed the animal studies. 13 And just, again, to clarify, and not with 14 Louise Brinth -- not specifically on primary 15 ovarian failure, but yes, about menstrual 16 irregularities because if you look at -- 17 again, that's -- 18 Q. Let me just -- who did you consult 19 with regarding your POI and menstrual 20 irregularity search terms? Anyone? 21 A. So I want to clarify. So there are 22 two different things, POI and menstrual 23 irregularities. Okay? If you want to do a 24 broad bucket, then POI is included in -- if 25 you want to do a broad thing, POI belongs to</p>
<p style="text-align: right;">Page 283</p> <p>1 reasonable objection, or am I just making 2 much ado about nothing? 3 So that's actually what I consulted 4 with him or asked him what was his opinion, 5 and he agreed that for any more solid 6 conclusion about fertility, they should have 7 followed the rats over more than one 8 reproductive cycle because, obviously, 9 primary ovarian failure is not something 10 that develops overnight. 11 But I didn't end up discussing any 12 of the animal studies in my report. 13 Q. Okay. So just to clarify, you 14 consulted Dr. Ward regarding the POI and 15 menstrual irregularity search terms that you 16 used in your algorithm? 17 A. Yeah, no, I haven't -- 18 ATTORNEY BAUM: Objection. Hold 19 it. Mischaracterizes her testimony 20 and is calling for things that she -- 21 consultation that she did not rely 22 upon for the opinions in her report. 23 ATTORNEY JULIEN: Are you 24 testifying or is she? Because she did 25 not say that.</p>	<p style="text-align: right;">Page 285</p> <p>1 menstrual irregularities. 2 But, obviously, I wanted to 3 separate and look at POI specifically 4 because, again, heavy menstrual bleeding and 5 POI are two different things. So that's why 6 I separated them out. But with the general 7 menstrual irregularities, that was group 8 that was part of the algorithm that Louise 9 and I designed, and for the simple reason as 10 shown in -- on Table 7 on my expert witness 11 report. 12 They were noticing, both Louise and 13 Jesper and also in the Japanese reports, 14 they found that menstrual irregularities is 15 one other adverse event or symptom that is 16 frequently reported by girls that report 17 these other symptoms that indicate 18 dysautonomia. 19 So again, that's why we have also 20 argued that yes, POTS is part of the 21 picture, but there seems to be also this 22 syndrome that is more complex and more 23 encompassing than POTS. So that's why we 24 were looking at menstrual irregularities. 25 Q. Can I just clarify because I really</p>

<p style="text-align: right;">Page 286</p> <p>1 want to know: Did you discuss with  2 Dr. Brinth, yes or no, regarding your  3 primary ovarian failure or --  4 A. Yeah, just the primary ovarian  5 failure, no.  6 Q. Okay. But just to break that down,  7 did you consult with Dr. Brinth regarding  8 the search terms related to what you  9 describe as menstrual irregularities in your  10 disproportionality analysis?  11 A. Yes, and those were -- those were  12 on the list of terms in the algorithm  13 because it was one of the symptom groups, so  14 yes.  15 Q. Okay. I am handing you what has  16 been marked as Exhibit 26 to your  17 deposition.  18 (Exhibit Number 26 was marked for  19 identification.)  20 BY ATTORNEY JULIEN:  21 Q. This is a VAERS report  22 number 0285806-1.  23 Do you see that?  24 A. Yes.  25 Q. Now, this is a report related to</p>	<p style="text-align: right;">Page 288</p> <p>1 A. It's not no questions asked.  2 Q. Well, if a VAERS report hit on  3 search criteria that you ran in VAERS, you  4 included it in your analysis; correct?  5 A. Correct. And that's what Tatang,  6 et al., did as well, and there's a process  7 signal --  8 Q. Okay. Doctor, I just --  9 ATTORNEY BAUM: You're  10 interrupting her answer.  11 ATTORNEY JULIEN: I'm just trying  12 to get a simple yes or no.  13 ATTORNEY BAUM: She has an answer,  14 and you're interrupting her.  15 BY ATTORNEY JULIEN:  16 Q. Okay. Please continue.  17 A. Yeah, so there is a process and  18 signal detection and signal validation. So  19 we didn't do signal validation. I know that  20 in -- again, prior disproportionality  21 analysis that I've done, I also included  22 only primary ovarian failure as a search  23 term, and there was still disproportionality  24 signal.  25 Q. So just to clarify and break this</p>
<p style="text-align: right;">Page 287</p> <p>1 Gardasil; right?  2 A. Correct.  3 Q. And under Symptoms, do you see  4 menstruation irregular listed?  5 A. Correct.  6 Q. And if we look at the age, this  7 person was 23.  8 A. Yes.  9 Q. So would this report have fallen  10 within your menstrual irregular search term  11 conducted in your disproportionality  12 analysis?  13 A. Yes, it would.  14 Q. Okay. Let's look at the adverse  15 event description. In reaching your  16 opinions related to -- strike that.  17 In conducting your  18 disproportionality analysis, did you or  19 Dr. Brinth actually go and look at the  20 adverse event descriptions for any of the --  21 any of the reports in your analysis?  22 A. No, we haven't.  23 Q. So if a VAERS report hit on search  24 criteria that you ran, you counted it in  25 your analysis no questions asked; right?</p>	<p style="text-align: right;">Page 289</p> <p>1 down --  2 A. But for the --  3 Q. Yeah.  4 A. For the purpose of this report, we  5 didn't do a clinical review of the  6 individual reports.  7 Q. And you and Dr. Brinth also did not  8 conduct a signal validation; correct?  9 A. Well, that's part of -- that's  10 clinical review.  11 Q. So there is signal detection, and  12 there is signal validation; right?  13 A. Correct.  14 Q. And you did not conduct signal  15 validation as part of your  16 disproportionality analysis in this report;  17 correct?  18 A. Correct.  19 Q. Now, I want to go back to  20 Exhibit 26. If we look at the adverse event  21 description, I just want to skip down a few  22 lines, maybe about halfway down.  23 Do you see it says: Again,  24 following vaccination?  25 A. Yes.</p>

<p style="text-align: right;">Page 290</p> <p>1 Q. It says: Again, following  2 vaccination, she experienced a headache,  3 though this headache was stronger. The  4 patient sought treatment for the headache  5 with her primary physician and a urine  6 pregnancy test at that time, date  7 unspecified, indicated that she was  8 pregnant.  9 Did I read that correctly?  10 A. Yes.  11 Q. And then if we go to the next line  12 down, it says: On 30 May, 2007, the patient  13 had an ultrasound that confirmed that she  14 was approximately eight weeks pregnant, and  15 all looked fine; correct?  16 A. Correct.  17 Q. So you included a report of a  18 pregnant person in your menstrual  19 irregularity disproportionality analysis;  20 correct?  21 A. That makes it sound like we  22 deliberately included it, and this is  23 just --  24 Q. I just want a yes or no.  25 A. -- a signal detection they will be</p>	<p style="text-align: right;">Page 292</p> <p>1 ATTORNEY BAUM: For both on  2 Gardasil and non-Gardasil.  3 ATTORNEY JULIEN: Are you  4 testifying or is she? Shall we  5 switch?  6 ATTORNEY BAUM: Yeah, go ahead.  7 ATTORNEY JULIEN: Okay. Please.  8 BY ATTORNEY JULIEN:  9 Q. Can you please answer my question?  10 A. Yes, it would be included both in  11 the Gardasil and the non-Gardasil.  12 Q. And that is precise coaching. Just  13 to be clear --  14 A. The same algorithm is applied to  15 pick up Gardasil reports and the  16 comparatively reports. Again, Gardasil --  17 there will be a proportion of Gardasil  18 reports that is incomplete. The same will  19 apply with the non-Gardasil reports.  20 Q. Do you have any evidence that any  21 of the reports that you included in the  22 non-Gardasil portion of your analysis  23 included pregnant people? Do you have any  24 evidence of that?  25 A. Say it again. Do I have any</p>
<p style="text-align: right;">Page 291</p> <p>1 included, and they were, likewise, included  2 in the Tatang, et al. study.  3 Q. Just to clarify, you included a  4 report of a pregnant person in your  5 menstrual irregularity disproportionality  6 analysis; correct?  7 A. I didn't personally include it as  8 if, like, you're trying to skew something or  9 to just make up the numbers. It's the  10 nature of the algorithm. Of course, it will  11 pick up things like -- it will pick up a  12 number of these reports.  13 Q. So let me rephrase. A report of a  14 pregnant person was included in the  15 menstrual irregularity disproportionality  16 analysis that you conducted in this report?  17 Yes or no?  18 ATTORNEY BAUM: Objection. That  19 mischaracterize her testimony.  20 BY ATTORNEY JULIEN:  21 Q. I'm going to ask again. A report  22 of a pregnant person was included in the  23 menstrual irregularity disproportionality  24 analysis that you conducted in this report;  25 correct?</p>	<p style="text-align: right;">Page 293</p> <p>1 evidence?  2 Q. Do you have any evidence that any  3 of the reports you included in the  4 non-Gardasil portion of your analysis  5 included pregnant people, or is that just a  6 guess?  7 A. Not right now, but, again, it's the  8 same algorithm, and it's the same age group.  9 Q. But, again, do you have any  10 evidence whatsoever that any of the reports  11 you included in the non-Gardasil portion of  12 your analysis included pregnant people?  13 A. Not right now.  14 Q. I'd like to move on to temporality.  15 On page -- we're in part 3, question 5 of  16 your report. I want to look at Table 2.  17 A. Part 3, question 5.  18 Q. It is page -- did you find it?  19 It's page 18 of part 3, question 5 of your  20 report.  21 A. Yeah, the Table 2?  22 Q. Yes. So we're back to talking  23 about the Bradford Hill criteria, and we're  24 looking at the temporality criterion. So  25 you define -- well, strike that.</p>

<p style="text-align: right;">Page 294</p> <p>1       Temporality within the Bradford</p> <p>2 Hill criteria is defined as when exposure</p> <p>3 exceeds the outcome in a plausible, temporal</p> <p>4 relation.</p> <p>5     A. Correct.</p> <p>6     Q. A temporal association by itself is</p> <p>7 not sufficient to prove causation; correct?</p> <p>8     A. Not in and of itself.</p> <p>9     Q. And you conclude that the</p> <p>10 temporality criterion of the Bradford Hill</p> <p>11 criteria were satisfied because, quote,</p> <p>12 relevant studies report a plausible temporal</p> <p>13 relationship between Gardasil vaccination</p> <p>14 and the emergence of symptoms indicative of</p> <p>15 dysautonomia and POTS?</p> <p>16     A. Correct.</p> <p>17     Q. Is that right? And you refer the</p> <p>18 reader to Table 2 on page 18 of part 3,</p> <p>19 question 5 of your report.</p> <p>20     A. Correct.</p> <p>21     Q. You define Table 2 as summary of</p> <p>22 published reports on post-HPV vaccinal</p> <p>23 dysautonomic syndromes showing a plausible</p> <p>24 temporal relationship between Gardasil</p> <p>25 vaccination and the emergence of relevant</p>	<p style="text-align: right;">Page 296</p> <p>1 vaccine dose most proximate to the emergence</p> <p>2 symptoms; right?</p> <p>3     A. Correct.</p> <p>4     Q. So it's not possible to tell in</p> <p>5 Table 2 whether any given report occurred</p> <p>6 after the first dose, the second dose, or</p> <p>7 the third dose Gardasil; is that correct?</p> <p>8     A. Yeah.</p> <p>9     Q. And it's not possible to -- strike</p> <p>10 that.</p> <p>11       The time between vaccination and</p> <p>12 symptom onset in Table 2 ranges from less</p> <p>13 than 24 hours after a vaccine dose to more</p> <p>14 than 12 months after a vaccine dose;</p> <p>15 correct?</p> <p>16     A. There is only a minor portion that</p> <p>17 are over 12 months, only 3.4 percent. It's</p> <p>18 saying 6 to 12 months, it's 4.9 percent.</p> <p>19 The vast majority are under six months.</p> <p>20     Q. I understand there might be a minor</p> <p>21 portion, but the time between vaccination</p> <p>22 and symptom onset in Table 2, the full range</p> <p>23 goes from less --</p> <p>24       (Unreportable simultaneous</p> <p>25 speaking interrupted by the Certified</p>
<p style="text-align: right;">Page 295</p> <p>1 symptoms.</p> <p>2     A. Correct.</p> <p>3     Q. And in Table 2, you purport to</p> <p>4 summarize data from Mehlsen 2022, Brinth</p> <p>5 2015, Martinez-Lavin in 2015, Palmieri 2017,</p> <p>6 Afrin 2022, Blitshteyn 2014, and Hendrickson</p> <p>7 2016?</p> <p>8     A. Correct.</p> <p>9     Q. And one more. Schofield and</p> <p>10 Hendrickson 2018.</p> <p>11       Do you believe that Table 2 on</p> <p>12 page 18 of your report supports the</p> <p>13 temporality criterion of the Bradford Hill</p> <p>14 analysis?</p> <p>15     A. Based on published literature on</p> <p>16 POTS, yes, because it's -- again, it's as</p> <p>17 explained in the table there as POTS can</p> <p>18 have different modes of onset, either acute,</p> <p>19 subacute, insidious.</p> <p>20     Q. Okay. If we look at Table 2, the</p> <p>21 description above the chart, it says that --</p> <p>22 you say the studies included in the summary</p> <p>23 report -- excuse me. Strike that.</p> <p>24       You say the studies included in the</p> <p>25 summary report the time elapsed between the</p>	<p style="text-align: right;">Page 297</p> <p>1 Stenographer.)</p> <p>2       ATTORNEY JULIEN: Sorry, if I can</p> <p>3 finish my question.</p> <p>4 BY ATTORNEY JULIEN:</p> <p>5     Q. The time between vaccination and</p> <p>6 symptom on onset in Table 2 ranges in full</p> <p>7 from less than 24 hours after a vaccine dose</p> <p>8 to more than 12 months after a vaccine dose;</p> <p>9 correct?</p> <p>10     A. Correct, correct.</p> <p>11     Q. Do you believe that a range of a</p> <p>12 year or more amounts to a plausible temporal</p> <p>13 association with a Gardasil vaccine?</p> <p>14     A. Well, I included all the temporal</p> <p>15 relation that was reported; so I didn't want</p> <p>16 to exclude that. Obviously, that would be</p> <p>17 misleading and cherry-picking; so I included</p> <p>18 all that was reported.</p> <p>19       Those that were over 12 is only</p> <p>20 3.4 percent. I do not think that's a</p> <p>21 plausible temporal relation for symptom</p> <p>22 onset after vaccination. It would be</p> <p>23 plausible for diagnosis because diagnosis</p> <p>24 can be delayed, but if a symptom is related</p> <p>25 to vaccination, it will be -- it would occur</p>

75 (Pages 294 - 297)



<p style="text-align: right;">Page 298</p> <p>1 quicker that a year after.</p> <p>2 But, again, I wanted to include</p> <p>3 everything so that I would not be accused of</p> <p>4 cherry-picking; so for transparency, I need</p> <p>5 to include everything that is reported.</p> <p>6 Q. Even under your theory, the</p> <p>7 development of new symptoms more than three</p> <p>8 or five years after Gardasil vaccination is</p> <p>9 unlikely to be related to Gardasil?</p> <p>10 A. No. I don't think it's related to</p> <p>11 Gardasil if it's that long after</p> <p>12 vaccination.</p> <p>13 Q. I want to ask a few questions about</p> <p>14 analogy, the analogy criterion. You</p> <p>15 generally refer back to parts 1 and 2 of</p> <p>16 your report to satisfy your analogy</p> <p>17 criterion of your Bradford Hill analysis;</p> <p>18 right?</p> <p>19 A. Yeah.</p> <p>20 Q. In support of the analogy</p> <p>21 criterion, you say that POTS has been</p> <p>22 reproduced in animals by immunization with</p> <p>23 peptides from the alpha-1 and beta-1</p> <p>24 adrenergic receptors adjuvanted with</p> <p>25 complete Freund's adjuvant.</p>	<p style="text-align: right;">Page 300</p> <p>1 even -- overcome the fact that it's not even</p> <p>2 a genetically susceptible animal.</p> <p>3 You want to provoke a really</p> <p>4 exaggerated immune response to get induction</p> <p>5 of autoimmunity. But when we're talking</p> <p>6 about humans with susceptibility factors,</p> <p>7 then you don't necessarily need a Freund's</p> <p>8 adjuvant.</p> <p>9 The very fact that natural</p> <p>10 infections can induce autoimmunity is a</p> <p>11 proof for that. Not everyone who gets</p> <p>12 infected gets an autoimmune disease, but</p> <p>13 certain people do.</p> <p>14 So if someone is going to argue</p> <p>15 that autoimmunity does not happen unless you</p> <p>16 have a Freund's adjuvant, then you have to</p> <p>17 refute tons of research that supports the</p> <p>18 link between infections and autoimmunity.</p> <p>19 And something like Gardasil provokes, again,</p> <p>20 a much more potent immune response than a</p> <p>21 natural HPV infection.</p> <p>22 Q. The World Health Organization has a</p> <p>23 committee known as the Global Advisory</p> <p>24 Committee on Vaccine Safety, or GACVS for</p> <p>25 short?</p>
<p style="text-align: right;">Page 299</p> <p>1 A. Yes.</p> <p>2 Q. And I'm going to call complete</p> <p>3 Freund's adjuvant CFA. Okay?</p> <p>4 A. Yeah.</p> <p>5 Q. CFA is not an aluminum adjuvant;</p> <p>6 right?</p> <p>7 A. No.</p> <p>8 Q. Is CFA an aluminum adjuvant?</p> <p>9 A. No, it's not.</p> <p>10 Q. CFA is not approved for use in</p> <p>11 humans; correct?</p> <p>12 A. Yeah, it's not approved for use in</p> <p>13 humans. And that's, again, the difference</p> <p>14 because these animals were not genetically</p> <p>15 susceptible or they have no particular</p> <p>16 susceptibility factor, and it goes back to</p> <p>17 the argument that we are not arguing that</p> <p>18 POTS can happen just to anyone following</p> <p>19 Gardasil because then, again, everyone</p> <p>20 vaccinated with the Gardasil would end up</p> <p>21 with POTS.</p> <p>22 And when you're using animals, and</p> <p>23 a special limited number of animals, then</p> <p>24 yes, of course, you have to employ a much</p> <p>25 stronger adjuvant that would overcome</p>	<p style="text-align: right;">Page 301</p> <p>1 A. Correct.</p> <p>2 Q. GACVS is comprised of experts from</p> <p>3 around the world on a range of issues</p> <p>4 including epidemiology, pediatrics,</p> <p>5 immunology, and autoimmunity?</p> <p>6 A. Correct.</p> <p>7 Q. Do you agree that WHO, the World</p> <p>8 Health Organization's GACVS is a reputable</p> <p>9 source of information on vaccines?</p> <p>10 A. I don't -- I don't agree with that</p> <p>11 because, again, I find a lot of their</p> <p>12 statements conflict with research data such</p> <p>13 as statements on the safety of aluminum</p> <p>14 adjuvants.</p> <p>15 Q. I'm handing you what has been</p> <p>16 marked as Exhibit 27 to your deposition.</p> <p>17 (Exhibit Number 27 was marked for</p> <p>18 identification.)</p> <p>19 BY ATTORNEY JULIEN:</p> <p>20 Q. WHO GACVS has publicly criticized</p> <p>21 three of your publications; correct?</p> <p>22 A. Yeah, correct.</p> <p>23 Q. And I've handed you one of them,</p> <p>24 which is the WHO 2012 Weekly Epidemiological</p> <p>25 Record, July 27, 2012. And if we turn to</p>

<p style="text-align: right;">Page 302</p> <p>1 page 282 through 283, that's where I'd like 2 to direct your attention. 3 A. 282 to 283, yes. 4 Q. And you recognize the document I've 5 marked as Exhibit 27; right? 6 A. Let me -- yeah, I do. It's 7 actually what I referred to earlier in my 8 deposition. Yes, I am familiar. 9 Q. If we go to the bottom of 282, do 10 you see the header Aluminum Adjuvants? 11 A. Yes. 12 Q. Exhibit 27 states that: The GACVS 13 reviewed two published papers alleging that 14 aluminum in vaccines is associated with 15 autism spectrum disorders, and the evidence 16 generated from quantitative risk assessment 17 from a U.S. FDA pharmacokinetic model of 18 aluminum-containing vaccines. 19 Did I read that part correctly? 20 ATTORNEY BAUM: You said from 21 instead of by. 22 ATTORNEY JULIEN: Sorry. Let me 23 read it again. 24 BY ATTORNEY JULIEN: 25 Q. This states -- this GACVS document</p>	<p style="text-align: right;">Page 304</p> <p>1 Aluminum Vaccine Adjuvants, Are They Safe; 2 correct? 3 A. Correct. 4 Q. And if we continue, it says: The 5 core argument made in these studies is based 6 on ecological comparisons of aluminum 7 content in vaccines and rates of autism 8 spectrum disorders in several countries. 9 Did I read that correctly? 10 A. Yes, correct. 11 Q. GACVS continues: In general, 12 ecological studies cannot be used to assert 13 a causal association because they do not 14 link exposure to outcome in individuals and 15 only make correlations of exposure in 16 outcomes on population averages. 17 A. Correct. 18 Q. GACVS continues: Therefore, their 19 value is primarily for hypothesis 20 generation. 21 A. Correct. And that's exactly what 22 we stated in our paper; so I don't know 23 what's the basis of their criticism. 24 Q. Okay. Well, it continues: 25 However, there are additional concerns with</p>
<p style="text-align: right;">Page 303</p> <p>1 states: GACVS reviewed two published papers 2 alleging that aluminum in vaccines 3 associated with autism spectrum disorders, 4 and the evidence generated from quantitative 5 risk assessment by a U.S. FDA 6 pharmacokinetic model of aluminum-containing 7 vaccines. 8 Did I read that correctly? 9 A. Yes. 10 Q. And then moving on, it says: GACVS 11 considers that these two studies, 3 and 4, 12 are seriously flawed. 13 Did I read that correctly? 14 A. Yes. 15 Q. And the two studies that GACVS is 16 referring to are yours and Dr. Shaw's. The 17 first is Do Aluminum Vaccine Adjuvants 18 Contribute to the Rising Prevalence of 19 Autism? 20 That's one of the articles that 21 GACVS described as seriously flawed? 22 A. Correct. 23 Q. And the other article that GACVS 24 described as seriously flawed is your 25 article published with Dr. Shaw entitled</p>	<p style="text-align: right;">Page 305</p> <p>1 those studies that limit any potential value 2 for hypothesis generation. These include 3 incorrect assumptions about known 4 associations of aluminum with neurological 5 disease, uncertainty of the accuracy of the 6 autism spectrum disorder prevalence rates in 7 different countries, and accuracy of 8 vaccination schedules and resulting 9 calculations of aluminum doses in different 10 countries. 11 Did I read that correctly? 12 A. Yeah, so I would like to answer 13 that. 14 Q. Well, I think your lawyer can ask 15 you questions about that if you want. I 16 just asked if I read it correctly. 17 A. Well, yeah, you have read it 18 correctly. But, again, I have -- 19 ATTORNEY JULIEN: Next I'd like to 20 mark Exhibit Number -- 21 THE WITNESS: It's like I am 22 basically being attacked without an 23 opportunity to answer these 24 criticisms. 25 BY ATTORNEY JULIEN:</p>

<p style="text-align: right;">Page 306</p> <p>1 Q. Just to clarify, Mr. Baum, your 2 lawyer, can give you the opportunity to 3 explain, but I asked you: Did I read that 4 correctly? 5 A. Okay. 6 Q. Okay. All right. So I am moving 7 on to Exhibit Number 28. 8 (Exhibit Number 28 was marked for 9 identification.) 10 BY ATTORNEY JULIEN: 11 Q. I'm handing you what has been 12 marked as Exhibit 28 to your deposition. 13 Have you seen this statement from 14 GACVS before? 15 A. I believe I have. 16 Q. Do you see this exhibit is dated 17 March 12, 2014? 18 A. Yes. 19 Q. And the title is Global Advisory 20 Committee on Vaccine Safety Statement on the 21 Continued Safety of HPV Vaccination. 22 Did I read that correctly? 23 A. Yes. 24 Q. And WHO GACVS opens by stating: As 25 with all new vaccines, the Global Advisory</p>	<p style="text-align: right;">Page 308</p> <p>1 Q. And if we look at the citations, 2 they are referring to your publications with 3 Dr. Shaw, your 2011 -- your two 2011 4 publications with Dr. Shaw; correct? 5 A. Correct. 6 Q. And then the paragraph continues: 7 In December, 2013, the GACVS reviewed 8 evidence related to HPV vaccine and 9 autoimmune disease specifically in multiple 10 sclerosis. While there remain case reports 11 in the literature, multiple epidemiologic 12 studies have not demonstrated any increased 13 risk of autoimmune diseases, including MS, 14 in studies. Some of which have included 15 girls who have received HPV vaccine compared 16 to those who have not. 17 Did I read that correctly? 18 A. Yes. 19 Q. Then it moves on. GACVS continues: 20 Several papers have also been published 21 pertaining to the finding of HPV L1 gene, 22 DNA fragments in clinical specimens 23 following HPV vaccination. 24 Did I read that correctly? 25 A. Yeah, and it's a misquotation</p>
<p style="text-align: right;">Page 307</p> <p>1 Committee on Vaccine Safety has been 2 reviewing the safety of HPV vaccines since 3 they were first licensed in 2006. 4 Did I read that correctly? 5 A. Yes. 6 Q. And then if we go to the last 7 sentence of the first paragraph, it says: 8 While safety concerns about HPV vaccines 9 have been raised, these have systemically 10 been investigated. To date, the GACVS has 11 not found any safety issue that would alter 12 any of the current recommendations for the 13 use of the vaccine. 14 Did I read that correctly? 15 A. Correct. 16 Q. If we go to the last paragraph on 17 the first page of this GACVS statement, it 18 says: In 2012, the GACVS reviewed two 19 studies claiming an association between 20 aluminum and vaccines and autism spectrum 21 disorder. It found serious flaws in the two 22 studies that limited their value even for 23 hypothesis generation. 24 Did I read that correctly? 25 A. Yes.</p>	<p style="text-align: right;">Page 309</p> <p>1 because reference 13 is the study published 2 by Dr. Shaw and I. We never claimed -- 3 well, we didn't claim DNA fragments in that 4 publication because it was -- it was about 5 something else. 6 We were hypothesizing that there is 7 crosser activity and that Gardasil -- 8 Gardasil antibodies recognized or 9 cross-react with human antigens, and we 10 also, based on histology results, had 11 reasons to believe that VLPs, in some cases, 12 can enter the brain or central nervous 13 system; so it wasn't about DNA fragments. 14 That was Dr. Lee's publication, 15 which is reference number 14. 16 Q. Okay. In this document, reference 17 13 is your paper with Dr. Shaw entitled 18 Death After Quadrivalent Hyper -- Human 19 Papillomavirus Vaccination: Causal or 20 Coincidental; right? 21 A. Correct. 22 Q. Now, it continues, the GACVS 23 statement continues: These papers claimed 24 an association with clinical events of an 25 inflammatory nature including cerebral --</p>

<p style="text-align: right;">Page 310</p> <p>1 strike that.</p> <p>2 The GACVS document states: These</p> <p>3 papers claimed an association with clinical</p> <p>4 events of an inflammatory nature, including</p> <p>5 cerebral vasculitis. While the GACVS has</p> <p>6 not formally reviewed this work, both the</p> <p>7 finding of DNA fragments and the HPV vaccine</p> <p>8 and their postulated relationship to</p> <p>9 clinical symptoms have been reviewed by</p> <p>10 panels of experts.</p> <p>11 Did I read that correctly?</p> <p>12 A. Correct.</p> <p>13 Q. And then it continues: First, the</p> <p>14 presence of HPV DNA fragments has been</p> <p>15 addressed by vaccine regulatory authorities</p> <p>16 who have clearly outlined it as an expected</p> <p>17 finding given the manufacturing process and</p> <p>18 not a safety concern.</p> <p>19 Did I read that correctly?</p> <p>20 A. Yes.</p> <p>21 Q. The GACVS statement continues:</p> <p>22 Second, the case reports -- and then they</p> <p>23 reference your publication with Dr. Shaw --</p> <p>24 of adverse events hypothesized to represent</p> <p>25 a causal relationship between the HPV L1</p>	<p style="text-align: right;">Page 312</p> <p>1 when they referred to our paper, they keep</p> <p>2 referring to DNA fragments because that was</p> <p>3 not what we talked about in our paper.</p> <p>4 And, again, they didn't even review</p> <p>5 the paper. They acknowledged that. I felt</p> <p>6 they would have at least reviewed the paper</p> <p>7 rather than relied on someone else's opinion</p> <p>8 that didn't even get facts correct about the</p> <p>9 paper.</p> <p>10 ATTORNEY JULIEN: Can we take a</p> <p>11 quick break?</p> <p>12 ATTORNEY BAUM: Yeah, how long?</p> <p>13 ATTORNEY JULIEN: Five minutes.</p> <p>14 Thanks.</p> <p>15 THE VIDEOGRAPHER: We are now</p> <p>16 going off the record, and the time is</p> <p>17 5:30 p.m.</p> <p>18 (Recess taken from 5:30 p.m. to</p> <p>19 5:47 p.m.)</p> <p>20 THE VIDEOGRAPHER: We are now</p> <p>21 going back on the record, and the time</p> <p>22 is 5:47 p.m.</p> <p>23 BY ATTORNEY JULIEN:</p> <p>24 Q. Dr. Tomljenovic, I asked you</p> <p>25 earlier if there were data from randomized</p>
<p style="text-align: right;">Page 311</p> <p>1 gene DNA fragments and death were flawed in</p> <p>2 both clinical and laboratory methodology.</p> <p>3 Did I read that correctly?</p> <p>4 A. Correct.</p> <p>5 Q. GACVS continues: The paper</p> <p>6 described two fatal cases sudden death in</p> <p>7 young women following HPV vaccine, one after</p> <p>8 ten days and one after six months, with no</p> <p>9 autopsy findings to support death as a</p> <p>10 result of cerebral vasculitis or</p> <p>11 inflammatory syndrome.</p> <p>12 Did I read that correctly?</p> <p>13 A. Yes.</p> <p>14 Q. GACVS continues: Thus, the</p> <p>15 hypotheses raised in this paper are not</p> <p>16 supported by what is understood by the</p> <p>17 residual DNA fragments left over following</p> <p>18 vaccine production. Given the extremely</p> <p>19 small quantities of residual HPV DNA in the</p> <p>20 vaccine and no evidence of inflammation on</p> <p>21 autopsy, ascribing a diagnosis of cerebral</p> <p>22 vasculitis and suggesting it may have caused</p> <p>23 death is unfounded.</p> <p>24 Did I read that correctly?</p> <p>25 A. Yeah, and I don't know why they --</p>	<p style="text-align: right;">Page 313</p> <p>1 control trials or epidemiological studies on</p> <p>2 the safety of aluminum, and you referenced</p> <p>3 three papers: One, a paper whose first</p> <p>4 author was Glanz at the CDC?</p> <p>5 A. Right.</p> <p>6 Q. You reference a meta-analysis of</p> <p>7 randomized control trials with vaccines with</p> <p>8 aluminum adjuvants versus placebo or no</p> <p>9 intervention?</p> <p>10 A. Correct.</p> <p>11 Q. And you referenced a review by</p> <p>12 Jefferson looking at the safety of adjuvants</p> <p>13 in vaccines; correct?</p> <p>14 A. Correct.</p> <p>15 ATTORNEY BAUM: Before you -- can</p> <p>16 you check to make sure everybody is</p> <p>17 in?</p> <p>18 THE VIDEOGRAPHER: We've got</p> <p>19 three.</p> <p>20 ATTORNEY BAUM: Okay. Go ahead.</p> <p>21 Sorry.</p> <p>22 BY ATTORNEY JULIEN:</p> <p>23 Q. I'm handing you what has been</p> <p>24 marked as Exhibit 29 to your deposition.</p> <p>25 ///</p>

<p style="text-align: right;">Page 314</p> <p>1 (Exhibit Number 29 was marked for 2 identification.) 3 BY ATTORNEY JULIEN: 4 Q. And I have marked all three of 5 those studies. 6 Do you see that? 7 A. Yes. 8 Q. So just to be clear, Exhibit 29 is 9 the three studies that you referenced when I 10 asked you earlier if there were data from 11 randomized control trials or epidemiological 12 studies on the safety of aluminum; correct? 13 A. Correct. 14 Q. Okay. One of the questions that I 15 had for you is that there appears to be 16 highlighting on the Jefferson publication. 17 A. Yeah. 18 Q. Whose highlighting is that? 19 A. That was my highlighting. I didn't 20 have an unhighlighted copy. 21 Q. And one of the sentences that you 22 highlighted is -- strike that. 23 One of the sentences that you 24 highlighted in the Jefferson -- was it 2004 25 publication?</p>	<p style="text-align: right;">Page 316</p> <p>1 BY ATTORNEY JULIEN: 2 Q. I am handing you what has been 3 marked as Exhibit 30 to your deposition. 4 (Exhibit Number 30 was marked for 5 identification.) 6 BY ATTORNEY JULIEN: 7 Q. Do you recognize Exhibit 30 as 8 Dr. Brinth's response to the EMA? 9 A. I do. 10 Q. Okay. And this response was 11 related to the Article 20 procedure in 2015? 12 A. Correct. 13 Q. If we go to -- I'd like to direct 14 your attention to page 10 of Dr. Brinth's 15 response. 16 A. Page 10? 17 Q. Yes. 18 A. Yes, I got it. 19 Q. I'd like to take a look at the last 20 paragraph on page 10. Dr. Brinth writes: I 21 have made very clear in my communication 22 with colleagues, authorities, and patients 23 that my work is a description of an 24 observation and a formulation of a question. 25 I am working on the lowest steps of the</p>
<p style="text-align: right;">Page 315</p> <p>1 A. Yes, 2004. 2 Q. You highlighted: Despite a lack of 3 good quality evidence, we do not recommend 4 that any further research on this topic is 5 undertaken. 6 A. Correct. 7 Q. Is that right? 8 Are you aware that Dr. Brinth 9 submitted a written response to the EMA 10 related to Article 20? 11 A. Written response? I think that's 12 the Dr. Brinth response documents? 13 Q. Yes. 14 A. Yeah. 15 Q. Have you seen that before? 16 A. Yes, I have. I cited it in my 17 report. 18 ATTORNEY BAUM: Allyson, what are 19 the numbers on these three? 20 ATTORNEY JULIEN: I just marked 21 them all Exhibit 29. 22 ATTORNEY BAUM: They're all 29? 23 They're one exhibit? 24 ATTORNEY JULIEN: Yes. 25 ///</p>	<p style="text-align: right;">Page 317</p> <p>1 ladder. 2 Did I read that correctly? 3 A. Yes. 4 Q. And the ladder that she's referring 5 to is on the prior page, this image that has 6 steps one through five? 7 A. Correct. 8 Q. Dr. Brinth goes on to say: 9 Therefore, my findings should not be seen as 10 proof of anything. 11 Did I read that correctly? 12 A. Yes. 13 Q. And you didn't mention that 14 Dr. Brinth said that her findings should not 15 be seen as proof of anything in your report; 16 did you? 17 A. No, I haven't. 18 Q. Okay. You have been a -- strike 19 that. 20 You agree with me that neither the 21 EMA nor the Danish Health Authority has 22 concluded that Gardasil causes POTS or CRPS; 23 correct? 24 A. Correct. 25 Q. And you have been a vocal opponent</p>

80 (Pages 314 - 317)



<p style="text-align: right;">Page 318</p> <p>1 of Gardasil since 2011; right?</p> <p>2 A. A vocal opponent?</p> <p>3 Q. Yes.</p> <p>4 A. I had my concerns regarding</p> <p>5 Gardasil efficacy and safety.</p> <p>6 Q. And those date back to 2011?</p> <p>7 A. 2011? Well, I'm just trying to</p> <p>8 find my CV. Maybe I should --</p> <p>9 Q. Is it fair to say you've been</p> <p>10 publishing opinions for Gardasil for more</p> <p>11 than ten years?</p> <p>12 A. Yeah, that's what I've been trying</p> <p>13 to find, when was my first publication of</p> <p>14 Gardasil. I don't think it was 2011. It</p> <p>15 would have been 2012. Yeah, there was</p> <p>16 nothing before 2012.</p> <p>17 Q. Okay. So you --</p> <p>18 A. Anyway, yeah, for a long time.</p> <p>19 Q. You've published many of the</p> <p>20 opinions in your report for more than the</p> <p>21 last decade; right?</p> <p>22 A. Yes.</p> <p>23 Q. You've presented all around the</p> <p>24 world on many of the opinions in your</p> <p>25 report; correct?</p>	<p style="text-align: right;">Page 320</p> <p>1 science -- I know that you understand -- I</p> <p>2 see that you're saying there are research</p> <p>3 scientists who believe similar to you do</p> <p>4 about Gardasil, but can you point me to a</p> <p>5 single scientific organization in the world</p> <p>6 that has concluded that Gardasil causes</p> <p>7 POTS, POI, CRPS, dysautonomia, or autoimmune</p> <p>8 disease?</p> <p>9 A. Not to my knowledge. I don't --</p> <p>10 I'm not aware of any.</p> <p>11 Q. Can you identify a single public</p> <p>12 health authority anywhere in the world that</p> <p>13 has concluded that Gardasil causes POTS,</p> <p>14 POI, CRPS, dysautonomia, or autoimmune</p> <p>15 disease?</p> <p>16 ATTORNEY BAUM: Objection. Vague.</p> <p>17 THE WITNESS: Again, I'm not aware</p> <p>18 of any.</p> <p>19 BY ATTORNEY JULIEN:</p> <p>20 Q. Can you identify a single</p> <p>21 regulatory authority with responsibility for</p> <p>22 Gardasil anywhere in the world that has</p> <p>23 concluded that Gardasil causes POTS, POI,</p> <p>24 CRPS, dysautonomia, or autoimmune disease?</p> <p>25 A. I'm not aware of any.</p>
<p style="text-align: right;">Page 319</p> <p>1 A. Correct.</p> <p>2 Q. You're aware that many of your</p> <p>3 criticisms about Article 20 have already</p> <p>4 been published by others; right?</p> <p>5 A. Correct.</p> <p>6 Q. Can you identify a single medical</p> <p>7 organization in the world that has concluded</p> <p>8 that Gardasil causes POTS, POI, CRPS,</p> <p>9 dysautonomia, or autoimmune disease?</p> <p>10 A. To my knowledge, no medical</p> <p>11 organization has.</p> <p>12 Q. Can you identify a single</p> <p>13 scientific organization in the world that</p> <p>14 has concluded that Gardasil causes POTS,</p> <p>15 POI, CRPS, dysautonomia, or autoimmune</p> <p>16 disease?</p> <p>17 ATTORNEY BAUM: Objection. Vague.</p> <p>18 THE WITNESS: That is pretty</p> <p>19 vague. But there is, again, a number</p> <p>20 of research scientists who believe</p> <p>21 that concerns are justified and that</p> <p>22 it's likely that Gardasil is</p> <p>23 responsible for these adverse events.</p> <p>24 BY ATTORNEY JULIEN:</p> <p>25 Q. And can you identify a single</p>	<p style="text-align: right;">Page 321</p> <p>1 ATTORNEY JULIEN: That concludes</p> <p>2 the questions that I have for today.</p> <p>3 I am going to leave the deposition</p> <p>4 open.</p> <p>5 ATTORNEY BAUM: Hold that thought.</p> <p>6 I determined that the chart that we</p> <p>7 gave you is the earliest chart that</p> <p>8 was exchanged with Louise Brinth, and</p> <p>9 I'm getting you the email that it was</p> <p>10 sent from, and we can go from there.</p> <p>11 ATTORNEY JULIEN: I mean, it's</p> <p>12 6 o'clock, the end of the deposition,</p> <p>13 and we are just going to go ahead and</p> <p>14 hold the deposition open. There are a</p> <p>15 number of issues, including the</p> <p>16 communications with Dr. Brinth, that</p> <p>17 we believe we are entitled to, the</p> <p>18 questions about those communications,</p> <p>19 as well as the emails and other</p> <p>20 communications themselves.</p> <p>21 We also have questions about</p> <p>22 the -- what was it? The Madigan</p> <p>23 analysis that you instructed her not</p> <p>24 to testify about, and we also will be</p> <p>25 following up about your instruction</p>

<p style="text-align: right;">Page 322</p> <p>1 for the witness not to answer  2 questions related to her belief that  3 evolution is a lie.  4 So with that, I'll conclude for  5 today and hold the deposition open.  6 Thank you.  7 ATTORNEY BAUM: So wait a second.  8 What if I have questions?  9 ATTORNEY JULIEN: I'm concluding  10 my portion. You're welcome to ask  11 away.  12 ATTORNEY ROSS: Can we go off the  13 record for one second?  14 ATTORNEY BAUM: Yes.  15 THE VIDEOGRAPHER: Shall we go  16 off?  17 ATTORNEY ROSS: I think we want to  18 know where we are on the record first.  19 THE VIDEOGRAPHER: Yeah, you're  20 ten minutes into where we started.  21 You have a little less than -- like  22 59 minutes left in yours.  23 ATTORNEY BAUM: So, like, 6:01,  24 something like that?  25 THE VIDEOGRAPHER: Yeah. Probably</p>	<p style="text-align: right;">Page 324</p> <p>1 Therefore, their value is primarily  2 for hypothesis generation. However, there  3 are additional concerns with those studies  4 that limit any potential value for  5 hypothesis generation. And so these  6 concerns, according to the WHO advisory  7 committee, is incorrect assumptions about  8 nonassociation of aluminum with neurological  9 disease. Again, this is very vague.  10 Uncertainty of the accuracy of the  11 autism spectrum disorder prevalence rates in  12 different countries and accuracy of  13 vaccination schedules and resulting  14 calculations of aluminum doses in different  15 countries.  16 Again, when they state the  17 epidemiological studies are primarily for  18 hypothesis generation, we never claimed  19 anything different. In the conclusion of  20 our paper, we say clearly we cannot draw  21 definite conclusions regarding the link  22 between aluminum adjuvants in autism based  23 on epidemiological study such as the present  24 one, and, hence, the validity of our results  25 remains to be confirmed.</p>
<p style="text-align: right;">Page 323</p> <p>1 6:02.  2 ATTORNEY JULIEN: So for the  3 record, it appears that I reserved  4 59 minutes.  5 (Discussion off the record.)  6  7 EXAMINATION  8 BY ATTORNEY BAUM:  9 Q. So I have a couple of questions for  10 you. Relative to Exhibit 27, you were asked  11 if -- Ms. Julien had read some of the  12 portions of this document improperly into  13 the record. You wanted to respond to some  14 of the things that were read into the record  15 and were not given the opportunity to  16 respond.  17 What was it you intended to say?  18 A. 283, 282. Yeah, so it was about  19 the GACVS criticism of our papers, that they  20 were seriously flawed -- okay. In general,  21 epidemiological studies cannot be used to  22 assert causal association because they do  23 not link exposure to outcome in individuals  24 and only make correlations of exposure and  25 outcomes on population averages.</p>	<p style="text-align: right;">Page 325</p> <p>1 A case control study would detail  2 examination of vaccination records and  3 aluminum body burden measurements, such as  4 in hair, urine, and blood, you know, this  5 taking a control group of children would be  6 one step towards this goal.  7 And then skipping to the last  8 paragraph of our paper. We have thus  9 provided a hypothesis, which we hope will  10 encourage further research into this area in  11 order to resolve the issue of whether or not  12 vaccines might be responsible in some part  13 for the growing prevalence of autism in the  14 developed world. And then such future  15 research to consider blah, blah, blah.  16 So, again, we didn't draw  17 conclusions that, again, go beyond the data.  18 So this is hypothesis. We think it should  19 be further looked into.  20 And then going further to their  21 criticism that their concerns regarding  22 incorrect assumptions about known  23 association of aluminum with neurological  24 disease. Again, it's impossible to answer  25 that because it's so vague. I mean, what</p>


<p style="text-align: right;">Page 326</p> <p>1 has been established in the research  2 literature for decades is that aluminum is a  3 neurotoxin. It's very hard to dispute that  4 if you look at the data.  5 So if aluminum is a neurotoxin,  6 it's not so outlandish to propose that it  7 can be associated with neurological disease.  8 But, again, it's very vague. Give me some  9 specifics so I can answer.  10 But going to their other criticism  11 that there are uncertainties of the accuracy  12 of the autism spectrum disorder prevalence  13 rates in different countries. Well, again,  14 we can only work with what is published in  15 the peer-reviewed literature.  16 There was data at the time of --  17 about prevalence of autism in different  18 countries. That's what we used. If you  19 want to criticize that there are  20 uncertainties and inaccuracies, well, why  21 don't you apply, then, the same standard to  22 Merck's estimate of POTS incidence during  23 the EMEA Article 20 assessment, which was  24 entirely speculative. 100 percent  25 speculative because, at that time, there was</p>	<p style="text-align: right;">Page 328</p> <p>1 other side?  2 But everything they produce grows,  3 even when it's evidently flawed. How can  4 you say the conclusion of the Article 20  5 assessment is that an HPV vaccine does not  6 increase the incidence of POTS, and  7 everything we see from after HPV vaccination  8 is consistent with background incidence  9 when, at the time, you didn't have any data  10 on the background incidence of POTS. Like  11 hello?  12 And then their last criticism was,  13 again, they doubt the accuracy of  14 vaccination schedules and resulting  15 calculations of aluminum doses in different  16 vaccines.  17 Again, what we have done is what  18 were the estimates based on? Data that  19 comes from vaccine product information  20 leaflets. That's what is available. So  21 that's the only thing I can base my estimate  22 on. If you think it's inaccurate, well,  23 what? What the manufacturer declared, you  24 think it's inaccurate? Again, we based our  25 estimation on what we considered was the</p>
<p style="text-align: right;">Page 327</p> <p>1 not a single published study on POTS  2 incidence. Not a single one.  3 So that makes the whole observed  4 versus expected analysis, again, an  5 exercise -- a highly speculative exercise.  6 Of course, because there were no published  7 studies on incidence of POTS, what about the  8 uncertainty of, again, the background  9 incidence rates of POTS?  10 And what Merck has done, they've  11 used chronic fatigue syndrome or background  12 incidence of chronic fatigue syndrome to try  13 and estimate the background incidence of  14 POTS.  15 But chronic fatigue syndrome is a  16 different disease with different sets of --  17 different sets of diagnostic criteria. So,  18 again, to try and estimate the incidence of  19 POTS based on chronic fatigue syndrome is  20 pretty flawed.  21 So my problem is that, again, there  22 seems to be a double standard where studies  23 that are critical of vaccine safety -- I  24 don't mind being scrutinized, but then why  25 don't you apply the same scrutiny to the</p>	<p style="text-align: right;">Page 329</p> <p>1 best available information.  2 I go to the manufacturer and see  3 what he states are the amounts aluminum in  4 different vaccines.  5 And then they go as a final  6 paragraph, they quote the study of the U.S.  7 FDA risk assessment model of aluminum in  8 vaccines. The FDA calculations incorporate  9 the most recently published aluminum risk  10 assessments by adjusting for  11 gastrointestinal absorption and uptake from  12 site of injection, and the FDA analysis  13 indicates that the body burden of aluminum  14 following injections of aluminum-containing  15 vaccines never exceeds the safe U.S.  16 regulatory thresholds based on orally  17 ingested aluminum, even for low birth-weight  18 infants.  19 The GACVS concludes that this  20 comprehensive risk assessment further  21 supports the clinical trial and  22 epidemiological evidence of the safety of  23 aluminum in vaccines. Current research on  24 pharmacokinetics aluminum in vaccines is  25 ongoing and should be encouraged as a means</p>

<p style="text-align: right;">Page 330</p> <p>1 of further validating and approving 2 this model. 3 So they even, again, acknowledge 4 here that there should be further research 5 around making this model, and they refer to 6 here by Keith, et al. study, which these are 7 scientists by the U.S. CDC that is being 8 wildly quoted by Merck. 9 And I'm not just going to point the 10 finger at Merck because it's not just Merck 11 that quotes it as almost like an unequivocal 12 proof of the safety of aluminum in vaccines. 13 Again, it's a theoretical model and 14 study with a number of -- with a number of 15 assumptions. So they used as a threshold -- 16 it's a minimal risk level of aluminum under 17 which it is assumed that there is no adverse 18 events. 19 This was derived by a particular -- 20 from a particular study by the ATSDR. But 21 research that was already available at that 22 time showed that that level was actually too 23 high because there were already published 24 studies at that time showing neurotoxicity 25 at the levels lower than the threshold that</p>	<p style="text-align: right;">Page 332</p> <p>1 So again it's a flawed assumption. 2 If you want to assess properly the 3 toxicological risk of injected aluminum, you 4 have to determine the threshold that this 5 minimal risk level for injected aluminum 6 rather than using the threshold for ingested 7 aluminum. 8 Again, I do get frustrated by this 9 double standard where, again, why don't 10 you -- do you not acknowledge the serious 11 limitations of the studies that you yourself 12 quote as well. This is kind of the final 13 nail in the coffin of people like myself who 14 are saying that the science is not entirely 15 settled as it's been proclaimed by various 16 health authorities. 17 Q. Okay. Relative to this particular 18 weekly epidemiological record that you were 19 shown, these are the things you would have 20 said if you had the opportunity to answer? 21 A. Yes, I would have because anyone 22 can criticize you, but what's the basis of 23 their criticism? I think that's important 24 to determine. 25 Q. Okay.</p>
<p style="text-align: right;">Page 331</p> <p>1 was used in this study. 2 And the second thing is that the 3 whole premise that they're trying to assess 4 the risk of injected aluminum based on the 5 safety levels for ingested aluminum. So 6 again, it's comparing apples and oranges 7 because ingested aluminum does not behave 8 the same as injected aluminum. They have 9 completely different pharmacokinetic 10 properties. 11 So it doesn't consider -- again, 12 mostly these studies will say, and rightly 13 so, that if you inject aluminum from 14 vaccines, you did not detect much change in 15 the plasma level of aluminum. Well, I would 16 not expect it because it doesn't end up 17 there. It gets captured by the macrophages, 18 and then it gets transferred into different 19 organs. 20 Even the ATSDR, they have 21 different -- they acknowledge the 22 different -- there are different routes of 23 exposure and not much is known about the 24 levels for injected aluminum in contrast to 25 data for orally taking aluminum.</p>	<p style="text-align: right;">Page 333</p> <p>1 A. I mean, that's what we are here 2 also because obviously. . . 3 Q. Have you seen any evidence of 4 individuals whose conditions worsened as 5 they received subsequent doses of Gardasil? 6 ATTORNEY JULIEN: Objection. 7 Vague. 8 THE WITNESS: Well, conditions of 9 POTS in particular because that's what 10 I was most focused on. And yes, there 11 was -- there was a number of published 12 cases, like Svetlana Blitshteyn, her 13 case report of six cases, and I do 14 cite them in my report, where the 15 conditions did worsen after subsequent 16 doses. 17 And that actually -- again, that's 18 the positive rechallenge, which is a 19 strong indicator of causal association 20 because, again, even though case 21 reports in and of themselves are a low 22 level of evidence, but this is what is 23 done even in looking at case reports. 24 There are certain things that are 25 looked at, certain criteria, to</p>

<p style="text-align: right;">Page 334</p> <p>1 determine -- and, again, Merck does it  2 all the time. That's also the purpose  3 of clinical review. Is there a  4 plausible temporal relation? Is there  5 evidence of positive rechallenge?  6 And, again, that's one of the  7 pretty strong indicators of causality,  8 if symptoms worsened. There's also a  9 number of MARS reports of POTS where  10 same symptoms got substantiated  11 following additional doses of the  12 vaccine.  13 BY ATTORNEY BAUM:  14 Q. So you did review in MARS of POTS  15 events that were reported in Merck's adverse  16 event reporting system for Gardasil;  17 correct?  18 ATTORNEY JULIEN: Objection.  19 Leading and vague.  20 THE WITNESS: Correct. I did  21 review MARS reports and case  22 narratives.  23 BY ATTORNEY BAUM:  24 Q. And among those were -- among those  25 were there events showing worsening of</p>	<p style="text-align: right;">Page 336</p> <p>1 6:15 p.m.  2 (Whereupon the deposition  3 concluded at 6:15 p.m.)  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25</p>
<p style="text-align: right;">Page 335</p> <p>1 symptoms as additional doses were given to  2 patients?  3 A. Yes.  4 ATTORNEY JULIEN: Objection.  5 Vague.  6 THE WITNESS: Yes, worsening of  7 POTS-related symptoms with subsequent  8 doses.  9 BY ATTORNEY BAUM:  10 Q. That's evidence of causation?  11 ATTORNEY JULIEN: Objection.  12 Leading and vague.  13 THE WITNESS: Well, it's one of  14 the evidence. One of the strong  15 indicators of causality that's, again,  16 recognizing the expert literature.  17 BY ATTORNEY BAUM:  18 Q. Okay. That's all I have for you.  19 THE VIDEOGRAPHER: Do you want to  20 conclude?  21 ATTORNEY JULIEN: Yes.  22 THE VIDEOGRAPHER: This concludes  23 Volume 1 of the video deposition of  24 Lucija Tomljenovic, and we are now  25 going off the record, and the time is</p>	<p style="text-align: right;">Page 337</p> <p>1 <b>REPORTER'S CERTIFICATE</b>  2  3 The undersigned Certified Shorthand  4 Reporter licensed in the states of  5 California, Nevada, Illinois, and Washington  6 does hereby certify:  7 That the foregoing deposition was  8 taken before me at the time and place  9 therein set forth, at which time the witness  10 was duly sworn by me;  11 That the testimony of the witness  12 and all objections made at the time of the  13 examination were recorded stenographically  14 by me and were thereafter transcribed, said  15 transcript being a true copy of my shorthand  16 notes thereof;  17 That if this is a Federal case, a  18 request [ ] was [X] was not made to read and  19 correct said deposition.  20 I further declare that I have no  21 interest in the outcome of the action.  22 In witness whereof, I have  23 subscribed my name this 20th day of October,  24 2024.  25</p>



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3 LISA MOSKOWITZ

4 California CSR 10816, RPR, CRR, CLR

5 Washington CCR 21001437, Nevada CCR 991,

6 Illinois CSR 084.004982

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1 ERRATA SHEET

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4 PAGE LINE CHANGE

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1 INSTRUCTIONS TO WITNESS

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3 Please read your deposition over

4 carefully and make necessary corrections.

5 You should state the reason in the

6 appropriate space on the errata sheet for

7 any corrections that are made.

8 After doing so, please sign the

9 errata sheet and date it.

10 You are signing same subject to the

11 changes you have noted on the errata sheet,

12 which will be attached to your deposition.

13 It is imperative that you return

14 the original errata sheet to the deposing

15 attorney within thirty (30) days of receipt

16 of the deposition transcript by you. If you

17 fail to do so, the deposition transcript may

18 be deemed to be accurate and may be used in

19 court.

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1 ACKNOWLEDGMENT OF DEPONENT

2

3 I, LUCIJA TOMLJENOVICH, PH.D., do

4 hereby certify that I have read the

5 foregoing pages, 1-341, and that the same is

6 a correct transcription of the answers given

7 by me to the questions therein propounded,

8 except for the corrections or changes in

9 form or substance, if any, noted in the

10 attached Errata Sheet.

11

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13 \_\_\_\_\_

14 LUCIJA TOMLJENOVICH, PH.D. DATE

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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